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August 15, 2017

Mr. Joe Butler
Project Manager
Hammers Construction
1411 Woolsey Heights
Colorado Springs, CO 80915

RE: David Wolf Development
Monument, Colorado
Updated Traffic Impact Study
LSC #164420

Dear Joe:

In response to your request, LSC Transportation Consultants, Inc. has prepared this updated traffic impact study for the David Wolf Development. As shown in Figure 1, the site is located east of Beacon Lite Road about 2,750 feet north of State Highway (SH) 105 in Monument, Colorado. Site access is proposed to Beacon Lite Road.

INTRODUCTION

The report contains the following:

- Existing street and traffic conditions in the study area, including roadway functional classifications, street widths, lane geometries, traffic controls, speed limits, pavement markings, intersection/access spacing, intersection sight distances, etc.
- Peak-hour and off-peak-hour turning movement traffic counts at the key intersection of Beacon Lite Road/SH 105.
- Description of the currently proposed and anticipated future site land uses.
- Projected average daily and peak-hour site trip generation.
- Assigned site-generated projected traffic volumes to streets and intersections in the study area.
- Resulting traffic impacts from the site, including level of service and traffic signal warrant analysis and an analysis of any required auxiliary turn lanes at the Wolf Court/Beacon Lite Road intersection
- Findings and recommendations.

LAND USE AND ACCESS

The *Trip Generation Manual, 9th Edition, 2012* by the Institute of Transportation Engineers (ITE) was used to categorize the proposed site land uses. Lots 1 through 6 of the proposed development have been categorized as “Industrial Park”—land use code 130—while Lot 7 has been categorized as “Automobile Care Center”—land use code 942. The proposed development will contain six industrial parcels with varying gross floor areas (GFA) and an auto collision repair business. Table 1 provides a breakdown of the anticipated gross floor area for each lot within the site. The subdivision plat is attached. This report addresses site buildout, even in the “existing plus site” scenario. However, each lot would be developed separately.

A single full-movement access from Beacon Lite Road to the site is proposed using platted Wolf Court right-of-way. Wolf Court is 2,750 feet north of SH 105 and 1,550 feet south of the southern intersection of Beacon Lite Road/Wakonda Way. Wolf Court would provide access to all lots.

Table 1: Anticipated Land Use for Proposed Development

Lot #	Land Use Description	ITE Code	Area	Units
1	Industrial Park	130	5,000	SF*
2	Industrial Park	130	10,000	SF*
3	Industrial Park	130	10,000	SF*
4	Industrial Park	130	10,000	SF*
5	Industrial Park	130	7,500	SF*
6	Industrial Park	130	15,000	SF*
7	Automobile Care Center	942	10,000	SF*

* SF = square feet of building floor area

ROADWAY AND TRAFFIC CONDITIONS

The proposed development site is located at the intersection of Beacon Lite Road and Wolf Court (platted right-of-way only, as the street has not been completed) in Monument, Colorado. State Highway (SH) 105 is located approximately 0.7 miles south of the site.

Major roadways in the vicinity are identified below, followed by a brief description of each.

Area Roadways

State Highway (SH) 105 extends east from the Town of Palmer Lake through the Town of Monument to Jackson Creek Parkway and is classified as a Non-Rural Arterial (Category NR-B) by the Colorado Department of Transportation (CDOT) within the study area. SH 105 has two lanes west of its intersection with Beacon Lite Road and four lanes through the Town’s commercial district plus auxiliary right-turn lanes and a two-way left-turn lane with dedicated left-turn lanes at the major intersections. There is a westbound right-turn deceleration lane at the SH 105/Beacon Lite intersection.

Beacon Lite Road is classified as a two-lane Rural Major Collector on the El Paso County MTCP between County Line Road and Highway 105. The north terminus of Beacon Lite Road is County

Line Road and it continues south through the Town of Monument to Santa Fe Avenue. South of 2nd Street, Beacon Lite Road becomes Old Denver Highway and connects to Baptist Road. No pedestrian/bike facilities exist along Beacon Lite Road in the vicinity of the site. The roadway is a rural cross section with a paved width of about 24-feet. Note: The El Paso County standard Major Rural Collector cross section does not include sidewalks, but includes paved outside shoulders.

Wolf Court is platted public right-of-way for the cul-de-sac street planned to provide access to Lots 1 through 7.

Figure 1 provides a visual of the nearby roadway network, while Table 2 summarizes characteristics for key roadways in the study area.

Table 2: Roadway Characteristics in the Study Area

Roadway	Limit		Roadway Characteristics			
	From	To	Lanes	Speed Limit	Paved	Classification
SH 105	Railroad underpass	Beacon Lite Road	2	35 mph	Yes	Non-rural Arterial (NR-B)
SH 105	Beacon Lite Road	2nd Street	2-4*	35 mph	Yes	Non-rural Arterial (NR-B)
Beacon Lite Road	County Line Road	Wakonda Way (north)	2	35 mph	No	Rural Major Collector – 2 lanes
Beacon Lite Road	Wakonda Way (north)	SH 105	2	35 mph**	Yes	Rural Major Collector – 2 lanes

* “Urban” cross section varies from two to four through lanes with some auxiliary turn lanes.
** 25 mph between SH 105 and 8th Street

Existing Traffic Volumes

Vehicular turning movement counts were conducted from 6:30 to 8:30 a.m. on Wednesday, June 22, 2016 and from 4:00 to 6:00 p.m. on Thursday June 23, 2016. Off-peak-hour counts were also conducted for purposes of completing the traffic signal warrant analysis for the Beacon Lite Road/SH 105 intersection. Peak period and off-peak data are attached for reference. The traffic count technician did not notice any abnormal traffic operations and, to his knowledge, there were no incidents or road construction activity in the area that would have altered the count results. Existing morning and afternoon weekday peak-hour turning movement traffic volumes at the SH 105/Beacon Lite Road intersection are shown in Figure 2. Count reports are attached. Figure 2 also shows the estimates of peak-hour traffic adjacent to the site and the estimates (based on factored peak-hour counts) of the average daily traffic volumes on Beacon Lite Road.

The intersection of Beacon Lite Road/SH 105 was analyzed in Synchro using the unsignalized method of analysis procedures from the *Highway Capacity Manual, 2010 Edition*. Detailed level of service reports are attached and additional details of the level of service are discussed in the Level of Service section of this report. All of the minor street and major street left-turn movements at the stop-sign-controlled SH 105/Beacon Lite Road intersection are currently operating at LOS D or better during the morning peak hour. However, the northbound and southbound approaches both

currently operate at LOS E during the evening peak hour. The traffic signal at SH 105/Safeway access generates gaps in westbound traffic.

TRIP GENERATION

Estimates of the vehicle trips expected to be generated by the site were made using the nationally published trip generation rates from *Trip Generation, 9th Edition, 2012* by the Institute of Transportation Engineers (ITE). The proposed Wolf Business Park development is projected to generate about 473 total vehicle-trips on the average weekday during a 24-hour period, with half entering and half exiting the site. During the morning peak hour, 55 vehicles are projected to enter and 17 vehicles are projected to exit the site. During the evening peak hour, 26 vehicles are projected to enter the site, while 55 vehicles are projected to exit. Table 3 shows a summary of the number of expected trips to and from the site during the morning and evening peak hours. A detailed trip generation estimate for the development, including rates and estimated trips generated for each of the lots, is found in Table 13 (attached).

Table 3: Peak-Hour Site Trip Generation Estimates

Analysis Period	In	Out	Total
AM Peak Hour (vehicle-trips/day)	55	17	72
PM Peak Hour (vehicle-trips/day)	26	55	81
Weekday (vehicle-trips/day)	237	236	473
* Please refer to Table 13 (attached) for detailed Trip Generation Table			

TRIP DISTRIBUTION AND ASSIGNMENT

Trip Distribution

Distributing the site-generated traffic volumes to the adjacent streets and key off-site intersections is a necessary component in determining the site's traffic impacts. Figure 3 shows the directional distribution estimate for the site-generated trips. The estimates were based on the following factors: the previous directional distribution estimate (attached for reference), the site's location with respect to nearby residential, commercial, and activity centers and the balance of the Tri-Lakes area and the larger Colorado Springs metropolitan area. Additional factors included the site's proposed land uses, the site's proposed access system, and the street system serving the site.

Site-Generated Traffic

When the directional distribution percentages (from Figure 3) were applied to the trip generation estimates (from Table 3), the buildout site-generated traffic volumes on the adjacent streets were determined. Figure 4 shows the site-generated traffic volumes.

PROJECTED VOLUMES AND LEVELS OF SERVICE

Existing vs. Existing Plus Site-Generated Traffic Conditions

Existing volumes are shown in Figure 2. Figure 5 shows the sum of the existing weekday traffic volumes (from Figure 2) and site-generated weekday traffic volumes (from Figure 4). **This analysis represents the unlikely scenario of immediate development of all lots. The more likely scenario is presented in the next section with estimated site buildout by 2022.**

Level of service (LOS) is a quantitative measure of the level of congestion or delay at an intersection and is indicated on a scale from “A” to “F.” LOS A is indicative of little congestion or delay, while LOS F is indicative of a high level of congestion or delay. Table 4 shows the level of service delay ranges for signalized and unsignalized intersections.

Table 4: Intersection Levels of Service Delay Ranges

Level of Service	Signalized Intersections		Unsignalized Intersections
	Average Control Delay (seconds per vehicle)	V/C ⁽¹⁾	Average Control Delay (seconds per vehicle) ⁽²⁾
A	≤ 10.0	< 0.60	≤ 10.0
B	10.1 – 20.0	0.60 – 0.69	10.1 – 15.0
C	20.1 – 35.0	0.70 – 0.79	15.1 – 25.0
D	35.1 – 55.0	0.80 – 0.89	25.1 – 35.0
E	55.1 – 80.0	0.90 – 0.99	35.1 – 50.0
F	≥ 80.1	≥ 1.00	≥ 50.1

(1) Source: *Transportation Research Circular 212*
 (2) For unsignalized intersections, if V/C is > 1.00, then LOS is LOS F regardless of the projected average control delay per vehicle

The intersection of Beacon Lite Road/SH 105 is currently two-way stop-sign controlled.

Morning Peak Hour

The southbound approach is projected to operate at LOS E during the 2017 existing plus site-generated traffic scenario. All other turning movements at the intersection of SH 105 at Beacon Lite Road are projected to operate at LOS D or better during the short-term morning peak hour, before and after considering site-generated traffic. If a traffic signal were to be installed at this intersection, all turning movements would operate at LOS B or better during the 2017 morning peak hour. Once site-generated traffic is considered, minor street 95th-percentile queue lengths are projected to be 40 feet and 20 feet, respectively, for the southbound and northbound approaches. A summary of projected 2017 existing plus site-generated LOS and control delays for each turning movement during all morning peak hour scenarios is shown in Table 5.

Table 5: 2017 Level of Service Comparison by Scenario (A.M.)

Analysis Period	Beacon Lite @ SH 105				Beacon Lite @ Wolf Ct	
	NB L/T	EBL	WBL	SB L/T/R	WBL	SBL
LOS						
2017 Existing	C	A	A	D	-	-
2017 Existing + Site	D	A	A	E	A	A
2017 Existing + Site [^]	A	B	A	B	A	A
Control Delay (Seconds)						
2017 Existing	22.1	8.1	8.2	28.6	-	-
2017 Existing + Site	25.8	8.4	8.2	35.0	9.9	7.5
2017 Existing + Site [^]	8.8	10.5	9.5	10.6	9.9	7.5
Volume-to-Capacity Ratio (v/c)						
2017 Existing	0.167	0.012	0.019	0.492	-	-
2017 Existing + Site	0.219	0.017	0.019	0.591	0.026	0.002
2017 Existing + Site [^]	0.110	0.600	0.520	0.390	0.026	0.002
95th-Percentile Queue Length (Feet)						
2017 Existing	15	0	3	65	-	-
2017 Existing + Site	20	3	3	88	3	0
2017 Existing + Site [^]	20	112	69	40	3	0
[^] Indicates analysis assuming traffic signal control at the intersection of Beacon Lite Road at SH 105; otherwise, the analysis results are for two-way, stop-sign control (TWSC) analysis.						

Evening Peak Hour

The southbound single-lane approach at the intersection of Beacon Lite Road at SH 105 is projected to operate at LOS E during the short-term evening peak hour after considering site-generated traffic. However, if a traffic signal were to be installed, all turning movements would operate at LOS B or better at the intersection of Beacon Lite Road/SH 105. Site access via Wolf Court is projected to operate at LOS A during all scenarios. Once site-generated traffic is considered, minor street 95th-percentile queue lengths are projected to decrease from 100 feet to 55 feet for the southbound approach if a traffic signal were to be installed. A summary of projected 2017 existing plus site-generated LOS and control delays for each turning movement during all evening peak-hour scenarios is shown in Table 6.

Table 6: 2017 Level of Service Comparison by Scenario (P.M.)

Analysis Period	Beacon Lite @ SH 105				Beacon Lite @ Wolf Ct	
	NB L/T	EBL	WBL	SB L/T/R	WBL	SBL
LOS						
2017 Existing	D	A	A	D	-	-
2017 Existing + Site	D	A	A	E	A	A
2017 Existing + Site [^]	B	B	A	B	A	A
Control Delay (Seconds)						
2017 Existing	28.1	8.3	8.5	30.9	-	-
2017 Existing + Site	29.2	8.3	8.5	49.0	9.6	7.4
2017 Existing + Site [^]	10.9	10.8	9.1	12.6	9.6	7.4
Volume-to-Capacity Ratio (v/c)						
2017 Existing	0.264	0.016	0.011	0.388	-	-
2017 Existing + Site	0.285	0.017	0.011	0.657	0.072	0.001
2017 Existing + Site [^]	0.140	0.650	0.540	0.370	0.072	0.001
95th-Percentile Queue Length (Feet)						
2017 Existing	25	0	0	43	-	-
2017 Existing + Site	28	3	0	100	5	0
2017 Existing + Site [^]	28	144	116	55	5	0
[^] Indicates analysis assuming traffic signal control at the intersection of Beacon Lite Road at SH 105; otherwise, the analysis results are for two-way, stop-sign control (TWSC) analysis.						

Short-Term (2022) Future Conditions

Background Traffic

Background traffic is the traffic estimated to be on the study area street system without consideration of the proposed development. Through traffic and the traffic generated by existing and future nearby developments is included, but all traffic generated by the site is ignored for the background traffic. Figure 6 shows the year 2022 background traffic volumes for a typical weekday. A 1.2-percent growth rate over five years for SH 105 through traffic was assumed based on the CDOT 20-year factor. Directional distributions were based on LSC’s previous traffic studies in the area.

Total Traffic

Figure 7 shows the year 2022 total traffic volumes. The 2022 total weekday traffic volumes are the sum of the buildout site-generated weekday traffic volumes (from Figure 6) and the 2022 background weekday traffic volumes (from Figure 6).

Morning Peak Hour

The southbound single-lane approach at the intersection of Beacon Lite Road at SH 105 is projected to operate at LOS F during the 2022 morning peak hour, before and after considering site-generated traffic, respectively. However, all turning movements at this intersection are projected to operate at LOS C or better with less control delay if the intersection were to be signalized. All left-turning movements at the site access intersection of Beacon Lite Road at Wolf Court are projected to operate at LOS B or better during both short-term scenarios.

The westbound left turning movement 95th-percentile queue is projected to increase from 3 feet to 164 feet if a traffic signal were to be installed. However, both the southbound and northbound approach queues are projected to decrease to 108 feet or less during the 2022 background plus site-generated morning scenario if the intersection of Beacon Lite Road/SH 105 were to be signalized. A summary of projected 2022 background plus site-generated LOS and control delays for each turning movement during both morning peak-hour scenarios is shown in Table 7.

Table 7: 2022 Level of Service Comparison by Scenario (A.M.)

Analysis Period	Beacon Lite @ SH 105				Beacon Lite @ Wolf Ct	
	NB L/T	EBL	WBL	SB L/T/R	WBL	SBL
LOS						
2022 Background	D	A	A	F	-	-
2022 Background + Site	E	A	A	F	B	A
2022 Background + Site [^]	B	C	C	B	B	A
Control Delay (Seconds)						
2022 Background	30.9	8.4	8.4	56.7	-	-
2022 Background + Site	40.8	8.6	8.4	111.5	10.0	7.5
2022 Background + Site [^]	13.7	29.7	25.6	13.6	10.0	7.5
Volume-to-Capacity Ratio (v/c)						
2022 Background	0.314	0.019	0.024	0.772	-	-
2022 Background + Site	0.410	0.048	0.024	1.001	0.025	0.002
2022 Background + Site [^]	0.018	0.740	0.600	0.240	0.025	0.002
95th-Percentile Queue Length (Feet)						
2022 Background	33	3	3	140	-	-
2022 Background + Site	45	6	3	220	3	3
2022 Background + Site [^]	25	270	164	108	0	0
[^] Indicates analysis assuming traffic signal control at the intersection of Beacon Lite Road at SH 105; otherwise, the analysis results are for two-way, stop-sign control (TWSC) analysis.						

Evening Peak Hour

The northbound shared left/through and the southbound single-lane approach at the intersection of Beacon Lite Road/SH 105 are projected to operate at LOS F with considerable control delay during the 2022 evening peak hour, before and after considering site-generated traffic. All other turning movements are projected to operate at LOS B or better. However, if a traffic signal were to be installed, all turning movements would operate at LOS C or better at the intersection of Beacon Lite Road/SH 105. Site access via Wolf Court is projected to operate at LOS B or better during all scenarios.

The eastbound and westbound left turning movement 95th-percentile queues are projected to increase from 3 feet each to 284 feet and 224 feet if a traffic signal were to be installed. However, both the southbound and northbound approach queues are projected to decrease to 146 feet or less during the

2022 background plus site-generated evening scenario if the intersection of Beacon Lite Road/SH 105 were to be signalized. A summary of projected 2022 background plus site-generated LOS and control delays for each turning movement during all evening peak-hour scenarios is shown in Table 8.

Table 8: 2022 Level of Service Comparison by Scenario (P.M.)

Analysis Period	Beacon Lite @ SH 105				Beacon Lite @ Wolf Ct	
	NB L/T	EBL	WBL	SB L/T/R	WBL	SBL
LOS						
2022 Background	F	A	A	F	-	-
2022 Background + Site	F	A	A	F	B	A
2022 Background + Site [^]	B	C	C	B	B	A
Control Delay (Seconds)						
2022 Background	118.4	9.4	8.6	284.5	-	-
2022 Background + Site	75.6	8.9	8.6	234.1	10.6	7.5
2022 Background + Site [^]	17.3	25.9	21.9	17.6	10.6	7.5
Volume-to-Capacity Ratio (v/c)						
2022 Background	0.846	0.031	0.019	1.410	-	-
2022 Background + Site	0.699	0.030	0.016	1.316	0.085	0.001
2022 Background + Site [^]	0.130	0.740	0.620	0.260	0.085	0.001
95th-Percentile Queue Length (Feet)						
2022 Background	125	3	3	313	-	-
2022 Background + Site	100	3	3	315	9	9
2022 Background + Site [^]	75	284	224	146	0	0
[^] Indicates analysis assuming traffic signal control at the intersection of Beacon Lite Road at SH 105; otherwise, the analysis results are for two-way, stop-sign control (TWSC) analysis. * Exceeds Synchro-calculated control delay (actual delay unlikely to reach this level of control delay)						

Long-Term (2036) Future Conditions

Background Traffic

Background traffic is the traffic estimated to be on the study area street system without consideration of the proposed development. Through traffic and the traffic generated by existing

and future nearby developments is included, but all traffic generated by the site is ignored for the background traffic. Figure 8 shows the year 2036 background traffic volumes for a typical weekday. A 1.2-percent growth rate for SH 105 through traffic was assumed based on the CDOT 20-year factor. Directional distributions were based on LSC's previous traffic studies in the area.

Total Traffic

Figure 9 shows the year 2036 total traffic volumes. The 2036 total weekday traffic volumes are the sum of the site-generated weekday traffic volumes (from Figure 4) and the 2036 background weekday traffic volumes (from Figure 8).

Morning Peak Hour

The northbound and southbound single-lane approaches at the intersection of Beacon Lite Road at SH 105 are projected to operate at LOS F during the 2036 morning peak hour, before and after considering site-generated traffic. However, all turning movements at this intersection are projected to operate at LOS B with considerably less control delay if the intersection were to be signalized. All left-turning movements at the site access intersection of Beacon Lite Road at Wolf Court are projected to operate at LOS B or better during all 2036 morning peak hour scenarios.

Without a traffic signal, the southbound approach is projected to have a 95th-percentile queue of 660 feet and a v/c of 2.221, but that would decrease to 135 feet and a v/c of 0.650 if the intersection of Beacon Lite Road/SH 105 were to be signalized. A summary of projected 2036 background plus site-generated LOS and control delays for each turning movement during all morning peak-hour scenarios is shown in Table 9.

Table 9: 2036 Level of Service Comparison by Scenario (A.M.)

Analysis Period	Beacon Lite @ SH 105				Beacon Lite @ Wolf Ct	
	NB L/T	WBL	EBL	SB L/T/R	WBL	SBL
LOS						
2036 Background	F	A	A	F	-	-
2036 Background + Site	F	A	A	F	B	A
2036 Background + Site [^]	B	B	B	B	B	A
Control Delay (Seconds)						
2036 Background	73.5	8.5	8.7	390.5*	-	-
2036 Background + Site	125.6	8.9	8.7	622.3*	11.1	7.6
2036 Background + Site [^]	10.2	11.8	13.7	18.3	11.1	7.6
Volume-to-Capacity Ratio (v/c)						
2036 Background	0.722	0.034	0.032	1.714	-	-
2036 Background + Site	0.919	0.041	0.036	2.221	0.030	0.003
2036 Background + Site [^]	0.260	0.520	0.640	0.650	0.030	0.003
95th-Percentile Queue Length (Feet)						
2036 Background	109	3	3	525	-	-
2036 Background + Site	150	3	3	660	3	0
2036 Background + Site [^]	58	139	187	135	3	0
[^] Indicates analysis assuming traffic signal control at the intersection of Beacon Lite Road at SH 105; otherwise, the analysis results are for two-way, stop-sign control (TWSC) analysis.						

Evening Peak Hour

The northbound and southbound approaches at the intersection of Beacon Lite Road at SH 105 are projected to operate at LOS F with considerable control delay during the 2036 evening peak hour, before and after considering site-generated traffic. All major street turning movements are projected to operate at LOS A. However, if a traffic signal were to be installed, all turning movements would operate at LOS C or better at the intersection of Beacon Lite Road/SH 105. Site access via Wolf Court is projected to operate at LOS B or better during all scenarios.

The southbound approach 95th-percentile queue is projected to decrease from 1,160 feet to 285 feet, while its v/c would decrease from 8.056 to 0.530 if a traffic signal were to be installed. All approaches are projected to have a v/c ratio below 0.750 if the intersection of Beacon Lite Road/

SH 105 were to be signalized. A summary of projected 2036 existing plus site-generated LOS and control delays for each turning movement during all evening peak-hour scenarios is shown in Table 10.

Table 10: 2036 Level of Service Comparison by Scenario (P.M.)

Analysis Period	Beacon Lite @ SH 105				Beacon Lite @ Wolf Ct	
	NB L/T	EBL	WBL	SB L/T/R	WBL	SBL
LOS						
2036 Background	F	A	A	F	-	-
2036 Background + Site	F	A	A	F	B	A
2036 Background + Site [^]	B	C	C	C	B	A
Control Delay (Seconds)						
2036 Background	913.0*	9.4	8.9	2251.2*	-	-
2036 Background + Site	1079.6*	9.5	8.9	3335.4*	12.7	7.6
2036 Background + Site [^]	18.1	24.7	26.9	22.3	12.7	7.6
Volume-to-Capacity Ratio (v/c)						
2036 Background	2.743	0.055	0.022	5.702	-	-
2036 Background + Site	3.092	0.022	0.058	8.056	0.107	0.001
2036 Background + Site [^]	0.270	0.710	0.750	0.530	0.107	0.001
95th-Percentile Queue Length (Feet)						
2036 Background	483	6	3	965	-	-
2036 Background + Site	506	6	3	1160*	10	0
2036 Background + Site [^]	140	278	290	285	10	0

[^] Indicates analysis assuming traffic signal control at the intersection of Beacon Lite Road at SH 105; otherwise, the analysis results are for two-way, stop-sign control (TWSC) analysis.

* Exceeds Synchro-calculated control delay (actual delay unlikely to reach this level of control delay)

TRAFFIC SIGNAL WARRANT ANALYSIS

The combination of major street approach volumes (includes the sum of eastbound and westbound approach volumes) and minor street volumes (northbound and southbound approaches) at the subject intersection were analyzed to determine if the combination would exceed the threshold criteria for Four-Hour and/or Eight-Hour Vehicular Volume Traffic Signal Warrants in the *2009 Manual on Uniform Traffic Control Devices (MUTCD)*.

2022 Background Conditions

Four-Hour Vehicular Volume Traffic Signal Warrant

Results from the four-hour traffic signal warrant analysis for the existing traffic scenario are shown in the Warrant 2, Four-Hour Vehicular Volume (MUTCD Figure 4C-1) signal warrant chart in Figure 10. More than four separate major/minor street volumes fell above the minimum threshold curve for an intersection with one lane for the major approach and one lane for the minor (southbound) approach. As a result, the intersection of SH 105/Beacon Lite Road **is** projected to meet the threshold for a Four-Hour Vehicular Volume Traffic Signal Warrant in 2022, considering only projected 2022 background traffic at the intersection.

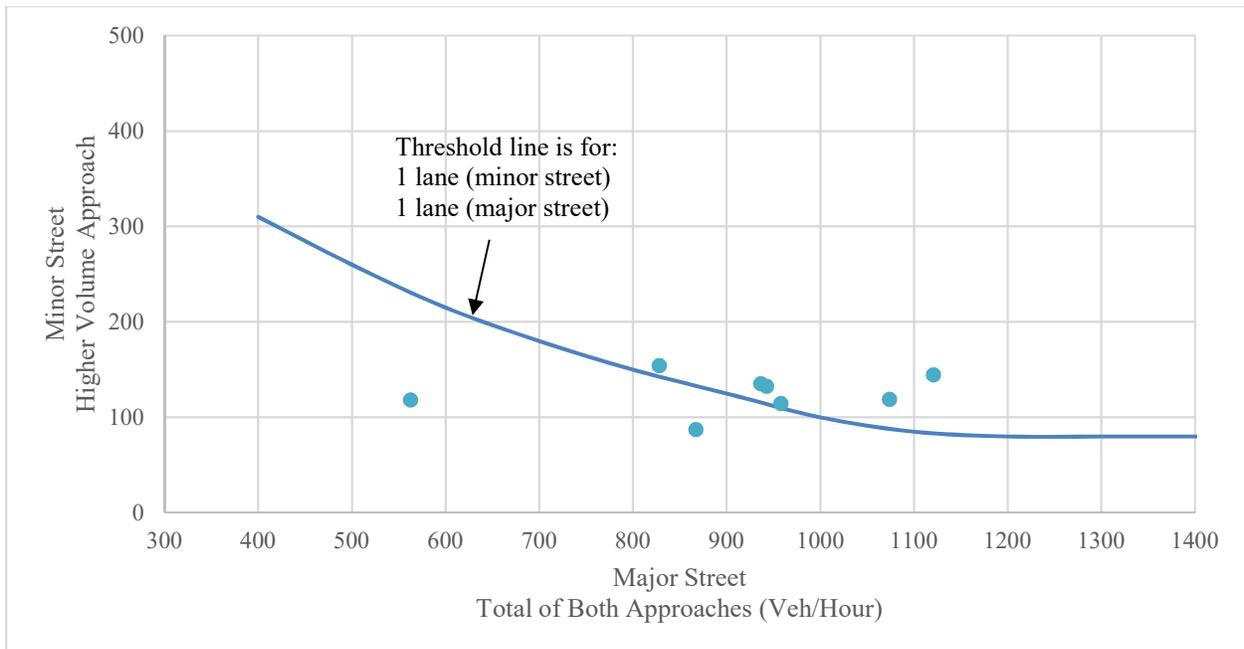


Figure 10: MUTCD Warrant 2, 4-Hour Vehicular Volume (2022 Background)

Eight-Hour Vehicular Volume Traffic Signal Warrant

Table 11 provides a summary of major/minor street volume combinations used when analyzing the four- and eight-hour traffic signal warrant thresholds. Results of the analysis indicate that the intersection **is not** projected to meet the minimum eight-hour volume signal warrant threshold for the 2022 background-only traffic scenario.

Table 11: Major/Minor Street Volumes for Traffic Signal Warrants (2022 Background)

Start	End	Major Street Volume	Minor Street Volume	4-Hour Warrant Threshold Met?	8-Hour Warrant Threshold Met?
6:30	7:30	563	118	No	Yes
7:30	8:30	828	154	Yes	Yes
11:30	12:30	937	135	Yes	Yes
12:30	1:30	943	133	Yes	Yes
2:00	3:00	867	87	No	No
3:00	4:00	958	114	Yes	Yes
4:00	5:00	1074	119	Yes	Yes
5:00	6:00	1121	145	Yes	Yes
<i># of hours meeting respective warrant thresholds/hours required to satisfy the warrant (warrant satisfied?)</i>				<i>6/4 (Yes)</i>	<i>7/8 (No)</i>

2022 Background Plus Site Conditions

Four-Hour Vehicular Volume Traffic Signal Warrant

Results from the four-hour traffic signal warrant analysis for the existing plus site-generated traffic scenario are shown in the Warrant 2, Four-Hour Vehicular Volume (MUTCD Figure 4C-1) signal warrant chart in Figure 11. Six separate major/minor street volumes fell above the minimum threshold curve for an intersection with one lane for the major approach and one lane for the minor (southbound) approach. As a result, the intersection of SH 105/Beacon Lite Road is projected to meet the threshold for a Four-Hour Vehicular Volume Traffic Signal Warrant in the 2022 background plus site-generated traffic scenario.

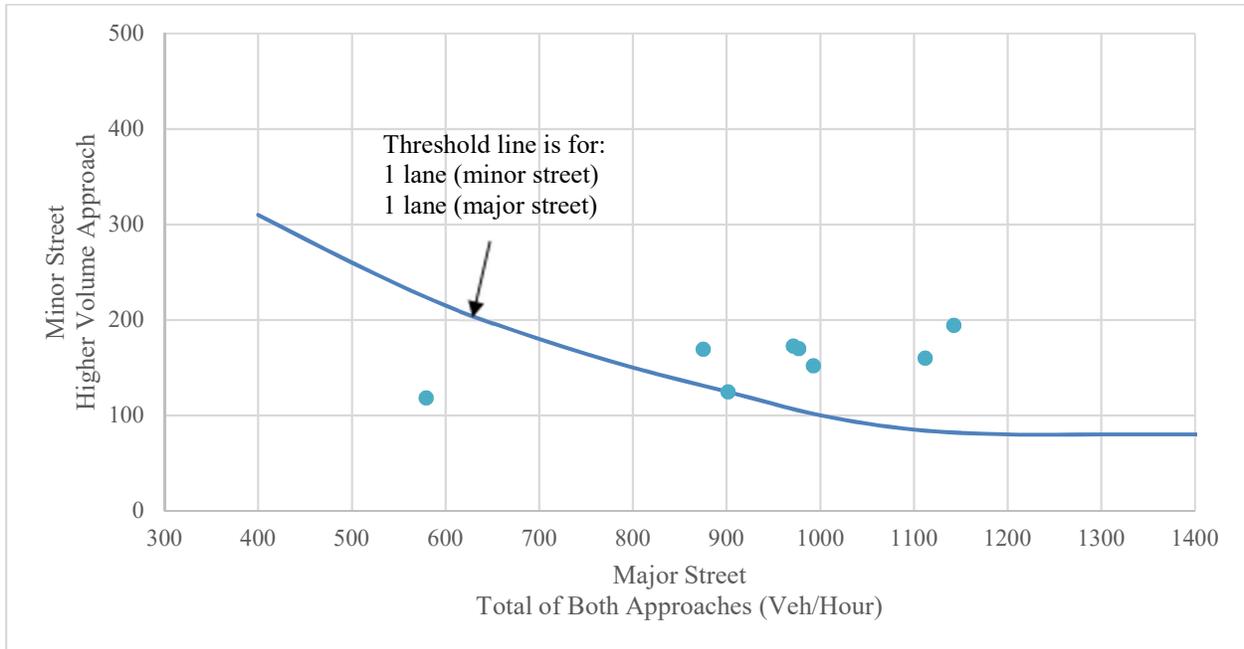


Figure 11: MUTCD Warrant 2, 4-Hour Vehicular Volume (2022 Background + Site)

Eight-Hour Vehicular Volume Traffic Signal Warrant

Table 9 shows the major/minor approach volume combinations used in the eight-hour traffic signal warrant analysis. The minimum side street volume (with right-turn adjustments applied) must exceed 100 vehicles per hour for the warrant to be satisfied, while the major street must have a minimum of 500 vehicles per hour (total of both approaches). Results of the analysis indicate that the intersection is projected to meet the minimum eight-hour volume signal warrant thresholds for the 2022 background plus site-generated traffic scenario.

Table 12: Summary of Major/Minor Street Volumes for 8-Hour Traffic Signal Warrant

Start	End	Major Street Volume	Minor Street Volume	4-Hour Warrant Threshold Met?	8-Hour Warrant Threshold Met?
6:30	7:30	579	118	No	Yes
7:30	8:30	875	169	Yes	Yes
11:30	12:30	971	172	Yes	Yes
12:30	1:30	977	170	Yes	Yes
2:00	3:00	902	124	No	Yes
3:00	4:00	993	152	Yes	Yes
4:00	5:00	1112	160	Yes	Yes
5:00	6:00	1142	194	Yes	Yes
# of hours meeting respective warrant thresholds/hours required to satisfy the warrant (warrant satisfied?)				6/4 (Yes)	8/8 (Yes)

CONCLUSIONS AND RECOMMENDATIONS

- The proposed development is projected to generate about 473 vehicle-trips on the average weekday during a 24-hour period. During the morning peak hour, approximately 55 vehicles would enter and 17 vehicles would exit the site. During the evening peak hour, approximately 26 vehicles would enter while 55 vehicles would exit the site. This site addresses the overall buildout of all the lots. However, it is anticipated that each lot will be developed individually.
- The intersection of SH 105/Beacon Lite Road is projected to operate at LOS E or worse in 2036 regardless of whether the proposed Wolf Business Park development is built. This is due to continued growth in SH 105 volumes and additional development along Beacon Lite Road.
- In order to reduce the projected control delay and vehicular queues, a traffic signal is likely to be installed in the future. This report contains a signal warrant threshold analysis which shows that a four-hour volume warrant would be met and an eight-hour volume warrant would be close to being met based on projected 2022 background traffic volumes. Four-hour and eight-hour volume warrants would be met based on projected 2022 background plus site-generated traffic volumes.
- It is anticipated that the lots within Wolf Business Park development will be required by CDOT to participate in a fair and equitable manner toward a future traffic signal at the SH 105/Beacon Lite Road intersection. CDOT has identified auxiliary turn lane requirements associated with other area projects. This project will add traffic to the westbound right-turn movement (a right-turn lane currently exists), the north/south approaches, and the eastbound left-turn movement. The addition of site-generated traffic plus existing traffic is not projected to exceed the access code threshold requiring the eastbound left-turn lane. However, some fair share participation by the lots within this subdivision and other small developments along Beacon Lite Road would be reasonable as, collectively, buildout development along Beacon Lite Road, along with County PPRTA improvements to Beacon Lite Road would likely result in the future need for this eastbound-to-northbound left-turn lane.
- A northbound right-turn deceleration lane on Beacon Lite Road at Wolf Court would be required at buildout of this project. The turn lane may not be warranted until the development of the last lot. The *El Paso County Engineering Criteria Manual (ECM)* prescribes a lane length of 155 feet plus a 120-foot approach taper based on the project buildout peak-hour turning movement volumes and a design speed of 40 mph. If the northbound roadway approach grade just south of Wolf Court is greater than 3 percent, the above deceleration criteria may be reduced by a factor of 0.90. If applicable, this adjustment can be incorporated at the design stage.
- The standard right-of-way for an El Paso County Rural Major Collector is 90 feet. However, this standard roadway cross section (which fits within the standard 90-foot right-of-way) does not include auxiliary left- and right-turn lanes. A northbound left-turn

lane on Beacon Lite Road in the vicinity of this site will likely be needed with the development of the property to the west. Therefore, LSC recommends that Wolf Business Park site planning and design give consideration to the potential need for an additional 6 to 8 feet of right-of-way that may be needed in the future.

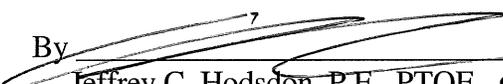
- Improvements to Beacon Lite Road will be completed as part of an El Paso County (Pikes Peak Regional Transportation Authority) PPRTA project.

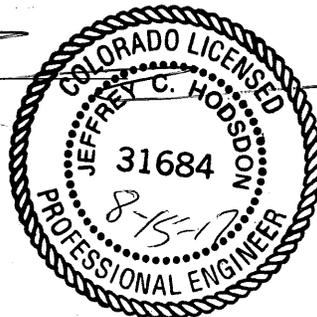
* * * * *

Please contact me if you have any questions.

Sincerely,

LSC TRANSPORTATION CONSULTANTS, INC.

By 
Jeffrey C. Hodsdon, P.E., PTOE
Principal



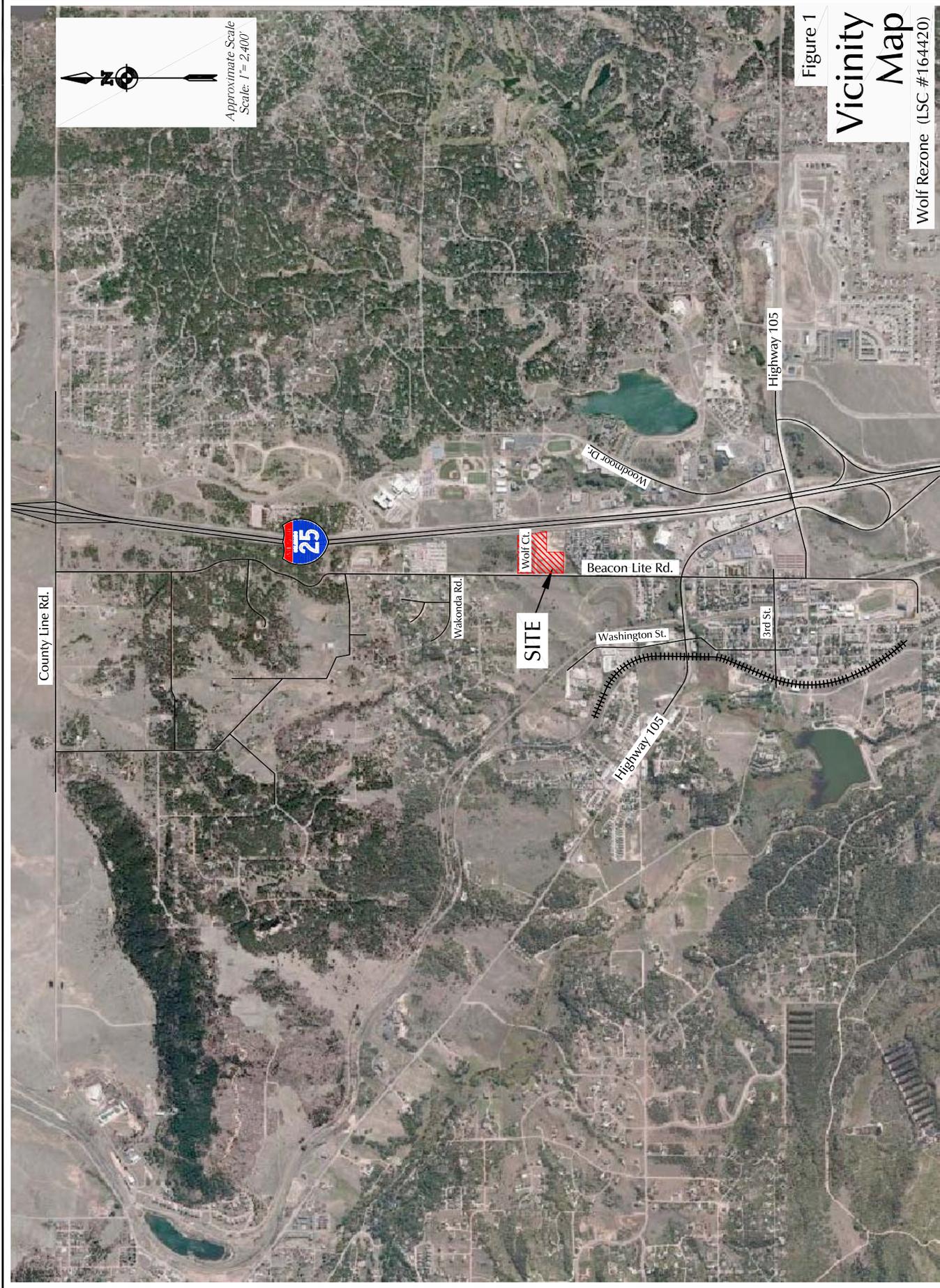
JCH/JB:bjwb

Enclosures: Table 13
Figures 1-11
Subdivision Plat
Previous Directional Distribution Estimate
Traffic Count Reports
Hourly Turning Movements (8 Hours)
Level of Service Reports

Table 13: Detailed Summary of Trip Generation

Lot					Trip Generation Rates ⁽¹⁾				Total Trips Generated					
	ITE		Value	Units	Avg Weekday Traffic	A.M.		P.M.		Avg Weekday Traffic	A.M.		P.M.	
	Code	Description				In	Out	In	Out		In	Out		
1	130	Industrial Park	5.000	KSF ⁽²⁾	6.83	0.67	0.15	0.18	0.67	34	7	1	2	7
2	130	Industrial Park	10.000	KSF	6.83	0.67	0.15	0.18	0.67	68	7	1	2	7
3	130	Industrial Park	10.000	KSF	6.83	0.67	0.15	0.18	0.67	68	7	1	2	7
4	130	Industrial Park	10.000	KSF	6.83	0.67	0.15	0.18	0.67	68	7	1	2	7
5	130	Industrial Park	7.500	KSF	6.83	0.67	0.15	0.18	0.67	51	7	1	2	7
6	130	Industrial Park	15.000	KSF	6.83	0.67	0.15	0.18	0.67	102	7	1	2	7
7	942	Automobile Care Center	10.000	KSF	8.00	1.49	0.77	1.49	1.49	80	15	8	15	15
										473	55	17	26	55

(1) Source: "Trip Generation, 9th Edition, 2012" by the Institute of Transportation Engineers
(2) KSF = 1,000 square feet of floor space

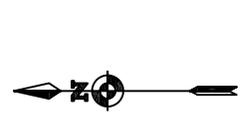


North Arrow
Approximate Scale
Scale: 1" = 2,400'

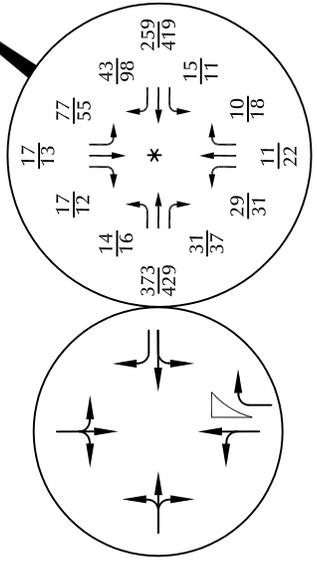
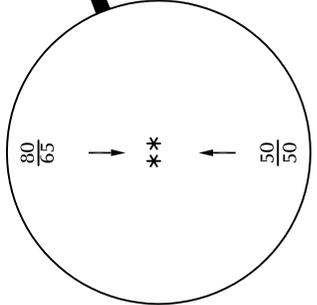
Figure 1

Vicinity Map

Wolf Rezone (LSC #164420)



Approximate Scale
Scale: 1" = 1,200'



*Counts by LSC (June 2016)
**Estimate by LSC

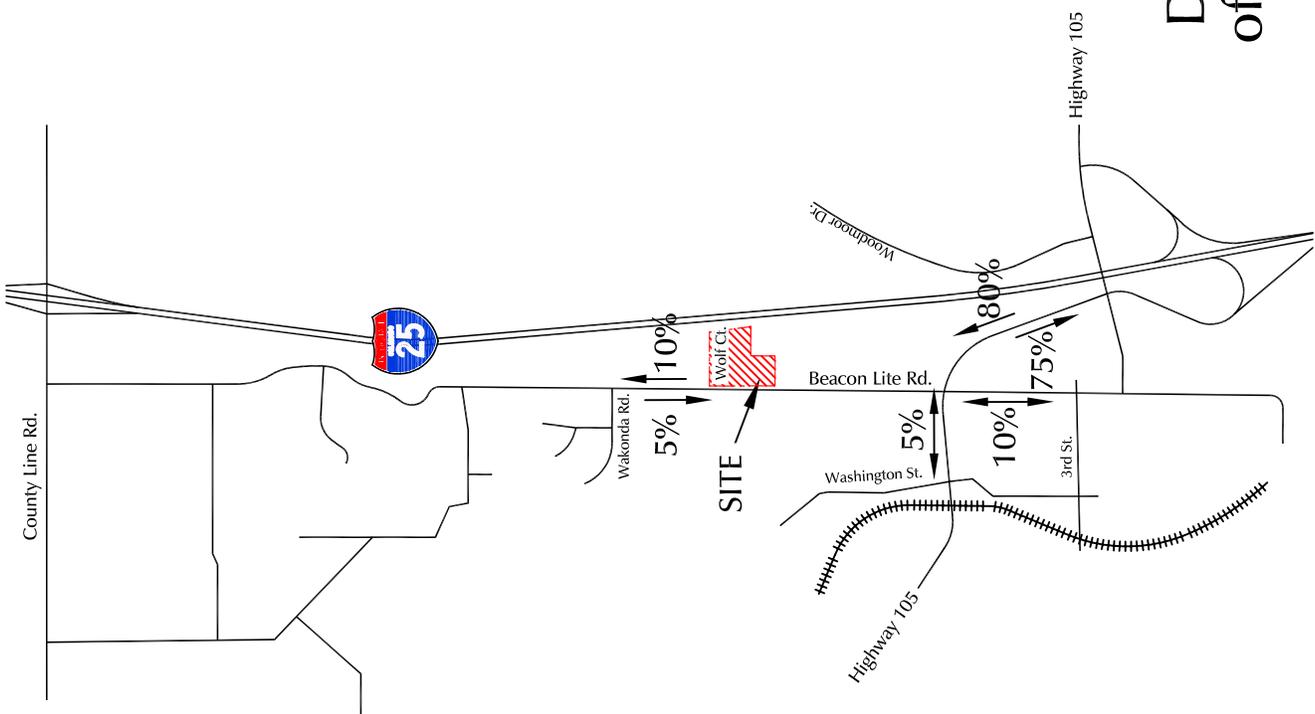
LEGEND:

- XX = AM Weekday Peak-Hour Traffic (vehicles per hour)
- XX = PM Weekday Peak-Hour Traffic (vehicles per hour)
- XXX = Average Weekday Traffic (vehicles per day)



Figure 2
Existing Traffic

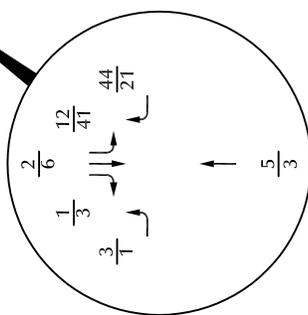
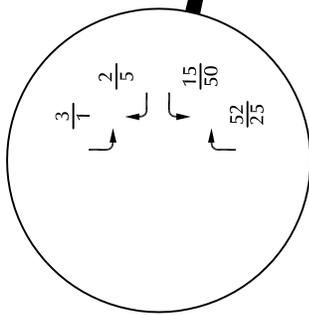
Wolf Rezone (LSC #164420)



Approximate Scale
Scale: 1" = 2,400'

LEGEND:
 = Percent Directional Distribution

Figure 3
**Directional Distribution
of Site-Generated Traffic**
Wolf Rezone (LSC #164420)

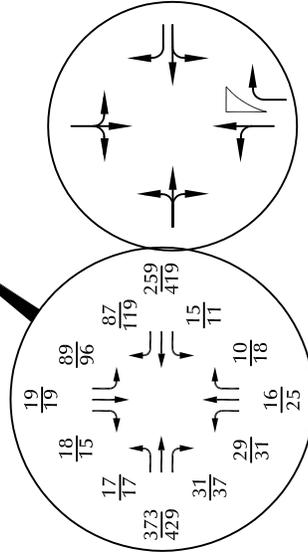
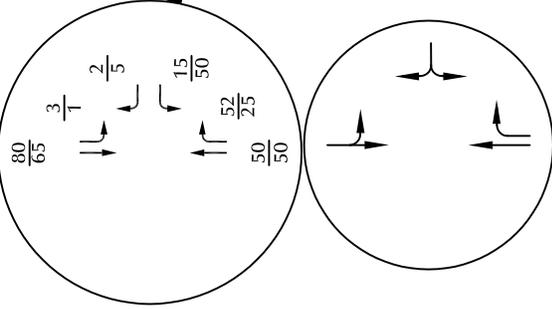
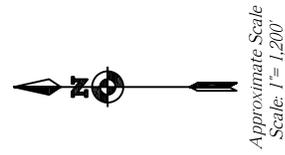


LEGEND:

- XX = AM Weekday Peak-Hour Traffic (vehicles per hour)
- XX = PM Weekday Peak-Hour Traffic (vehicles per hour)
- XXX = Average Weekday Traffic (vehicles per day)



Figure 4
Assignment of Site-Generated Traffic
 Wolf Rezone (LSC #164420)



LEGEND:

- XX = AM Weekday Peak-Hour Traffic (vehicles per hour)
- XX = PM Weekday Peak-Hour Traffic (vehicles per hour)
- XXX = Average Weekday Traffic (vehicles per day)



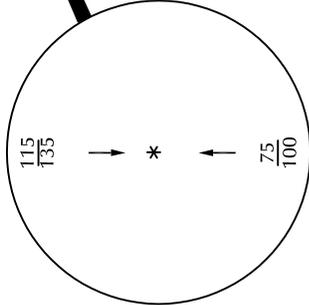
Figure 5

Existing Plus Site-Generated Traffic

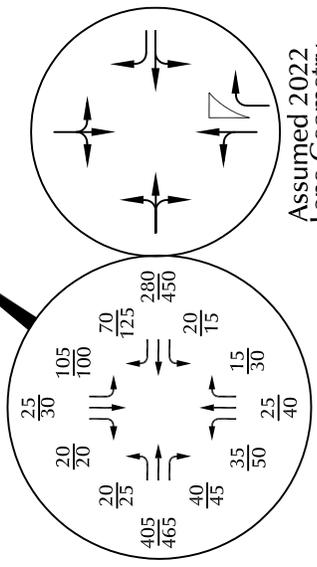
Wolf Rezone (LSC #164420)



Approximate Scale
Scale: 1" = 1,200'



*Note: These traffic volumes projections include future traffic generated by other vacant parcels along Beacon Lite Road. Potentially, future access to the vacant land west of the site would align with Wolf Court, the south access to this site, or both.



Assumed 2022 Lane Geometry

LEGEND:

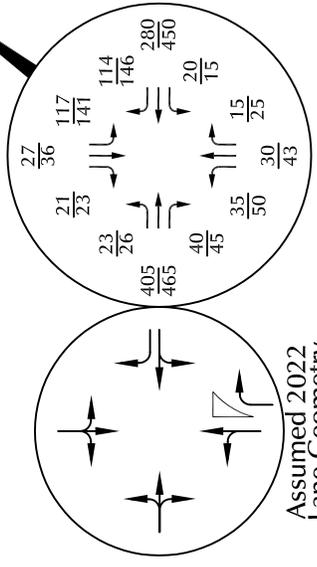
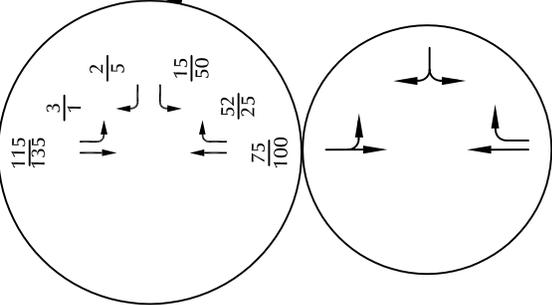
- XX = AM Weekday Peak-Hour Traffic (vehicles per hour)
- XX = PM Weekday Peak-Hour Traffic (vehicles per hour)
- XXX = Average Weekday Traffic (vehicles per day)



Figure 6
Year 2022
Background Traffic
Wolf Rezone (LSC #164420)



Approximate Scale
Scale: 1" = 1,200'



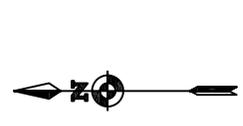
Assumed 2022
Lane Geometry

LEGEND:

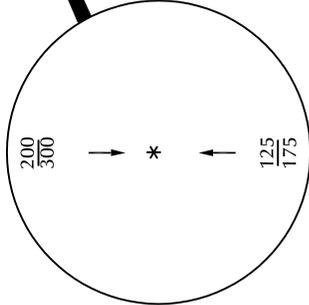
- XX = AM Weekday Peak-Hour Traffic (vehicles per hour)
- XX = PM Weekday Peak-Hour Traffic (vehicles per hour)
- XXX = Average Weekday Traffic (vehicles per day)



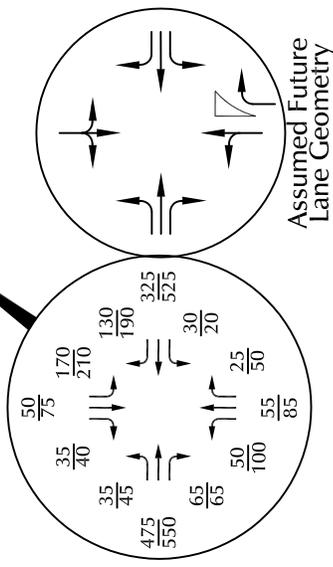
Figure 7
**Year 2022
Total Traffic**
Wolf Rezone (LSC #164420)



Approximate Scale
Scale: 1" = 1,200'



*Note: These traffic volumes projections include future traffic generated by other vacant parcels along Beacon Lite Road. Potentially, future access to the vacant land west of the site would align with Wolf Court, the south access to this site, or both.



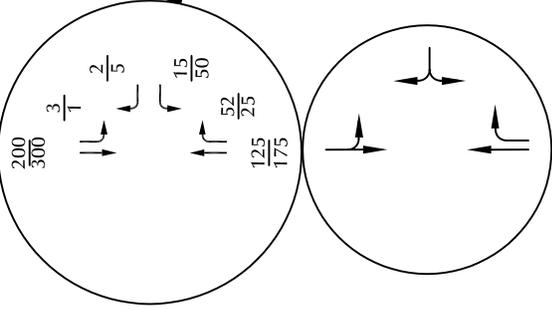
Assumed Future Lane Geometry

LEGEND:

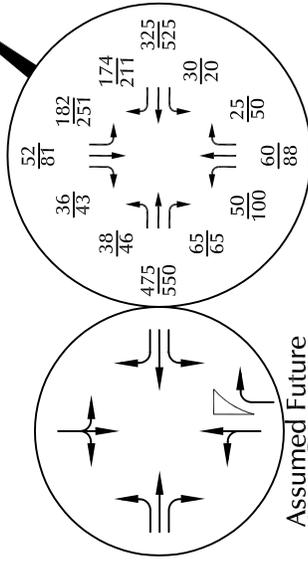
- XX = AM Weekday Peak-Hour Traffic (vehicles per hour)
- XX = PM Weekday Peak-Hour Traffic (vehicles per hour)
- XXX = Average Weekday Traffic (vehicles per day)



Figure 8
Year 2036
Background Traffic
Wolf Rezone (LSC #164420)



Approximate Scale
Scale: 1" = 1,200'



Assumed Future Lane Geometry

LEGEND:

XX = AM Weekday Peak-Hour Traffic (vehicles per hour)
XX = PM Weekday Peak-Hour Traffic (vehicles per hour)

XXX = Average Weekday Traffic (vehicles per day)

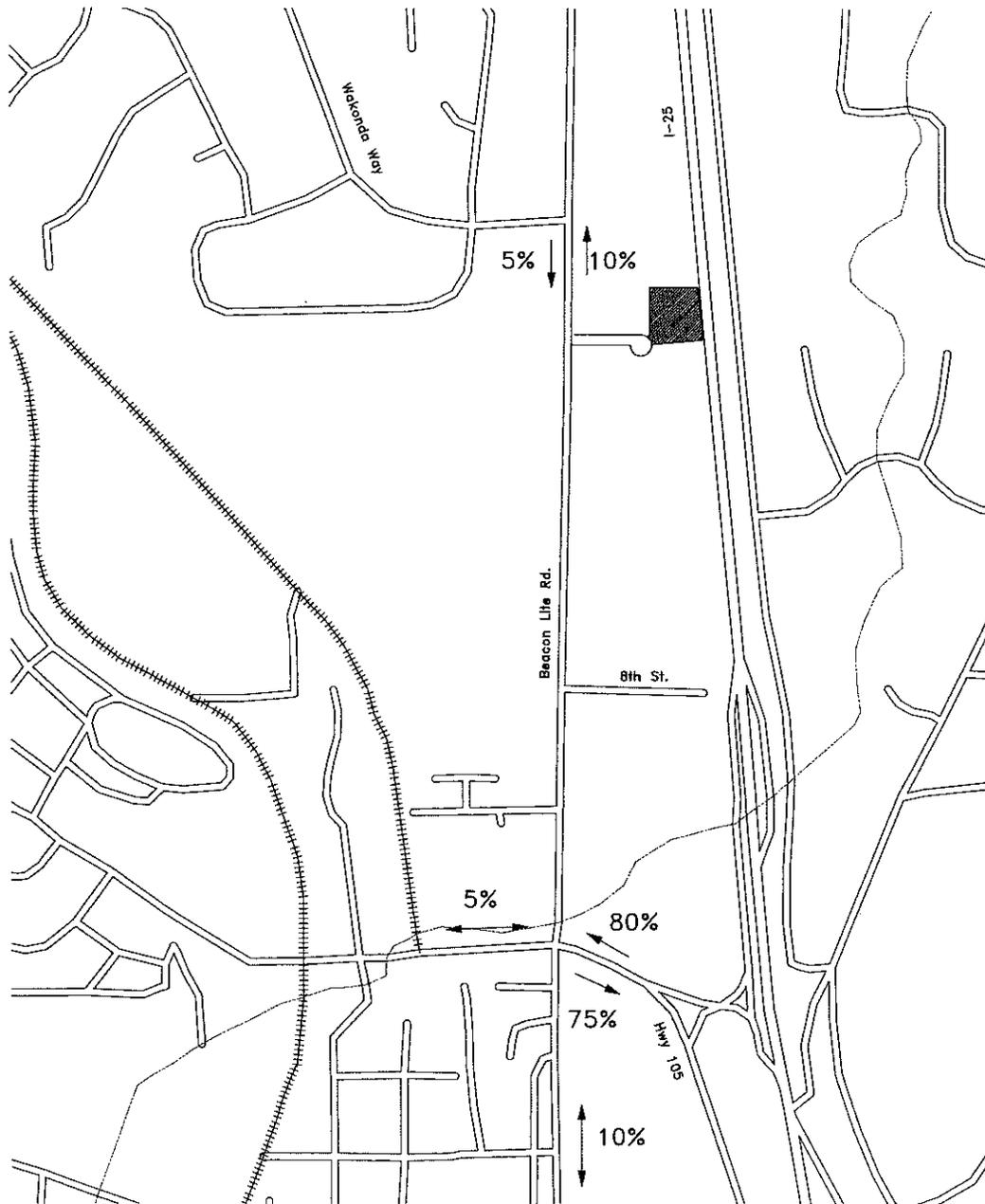
Figure 9
Year 2036
Total Traffic
Wolf Rezone (LSC #164420)

WOLF BUSINESS PARK FILING NO. 2 A VACATION & REPLAT OF LOTS 1 - 4, WOLF BUSINESS PARK & UNPLATTED TRACTS, ALL LOCATED IN THE SW1/4 OF SECTION 11, T. 11 S., R. 67 W. OF TRACTS, THE 6th P.M., TOWN OF MONUMENT, EL PASO COUNTY, COLORADO

CERTIFICATE OF DEDICATION AND OWNERSHIP:

KNOW ALL MEN BY THESE PRESENTS, THAT THE UNDERSIGNED, BEING ALL OF THE OWNERS, MORTGAGEES(S) AND LIENHOLDERS(S) OF CERTAIN LANDS IN THE TOWN OF MONUMENT, EL PASO COUNTY, COLORADO, DESCRIBED AS FOLLOWS:

PARCELS 1, 2, 3 AND 4, WOLF BUSINESS PARK, AS RECORDED UNDER REC. NO. 200803355 OF THE RECORDS OF THE EL PASO COUNTY, COLORADO, AND PARCELS 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 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Legend:

XX% -Directional distribution of site-generated traffic

Wolf Business
Park Update TIS
dated 2/14/2001



NOT TO SCALE



LSC NO.: 005350

FIGURE NO.: 3

Directional
Distribution

Wolf Business Park Update

LSC Transportation Consultants, Inc.

545 E. Pikes Peak Ave., #210

LSC Transportation Consultants, Inc. Colorado Springs, CO 80903 Name : Beacon Lite Rd - Hwy 105 AM

(719) 633-2868

Site Code : 00164420

Start Date : 06/22/2016

Page No : 1

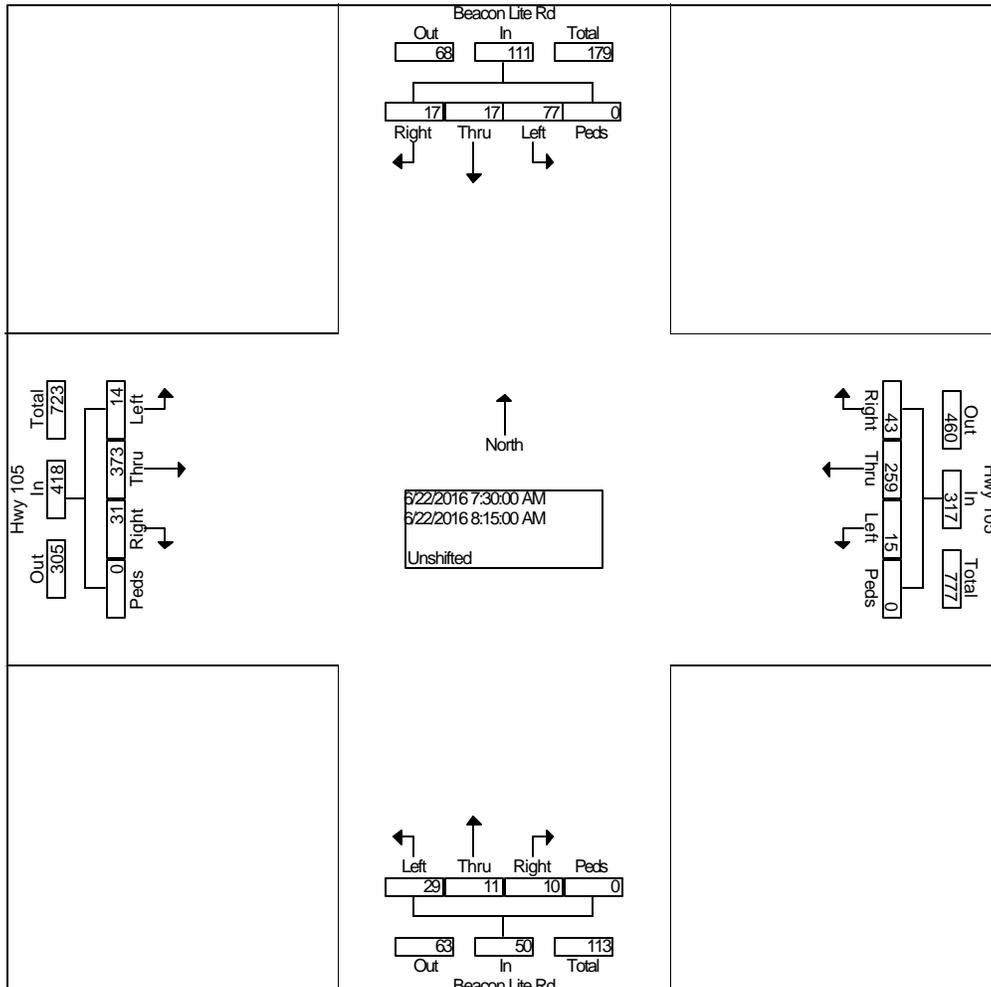
Groups Printed- Unshifted

Start Time	Beacon Lite Rd From North				Hwy 105 From East				Beacon Lite Rd From South				Hwy 105 From West				Int. Total	
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds		
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	2	1	8	0	9	22	6	0	6	3	2	0	3	61	1	0		124
06:45 AM	6	3	26	0	11	37	2	0	4	2	5	0	2	69	2	0		169
Total	8	4	34	0	20	59	8	0	10	5	7	0	5	130	3	0		293
07:00 AM	4	2	21	0	9	30	0	0	1	2	5	0	3	68	1	0		146
07:15 AM	2	5	11	0	8	61	4	0	4	3	2	0	7	97	2	0		206
07:30 AM	0	4	20	0	12	61	3	0	1	1	6	0	11	98	1	0		218
07:45 AM	4	6	26	0	17	87	8	0	1	4	4	0	10	93	2	0		262
Total	10	17	78	0	46	239	15	0	7	10	17	0	31	356	6	0		832
08:00 AM	4	2	17	0	9	52	3	0	5	4	11	0	5	79	9	0		200
08:15 AM	9	5	14	0	5	59	1	0	3	2	8	0	5	103	2	0		216
Grand Total	31	28	143	0	80	409	27	0	25	21	43	0	46	668	20	0		1541
Apprch %	15.3	13.9	70.8	0.0	15.5	79.3	5.2	0.0	28.1	23.6	48.3	0.0	6.3	91.0	2.7	0.0		
Total %	2.0	1.8	9.3	0.0	5.2	26.5	1.8	0.0	1.6	1.4	2.8	0.0	3.0	43.3	1.3	0.0		

LSC Transportation Consultants, Inc.
 545 E. Pikes Peak Ave., #210
 Colorado Springs, CO 80903
 (719) 633-2868

Name : Beacon Lite Rd - Hwy 105 AM
 Site Code : 00164420
 Start Date : 06/22/2016
 Page No : 2

Start Time	Beacon Lite Rd From North					Hwy 105 From East					Beacon Lite Rd From South					Hwy 105 From West					Int. Total
	Rig ht	Thr u	Lef t	Pe ds	App. Total	Rig ht	Thr u	Lef t	Pe ds	App. Total	Rig ht	Thr u	Lef t	Pe ds	App. Total	Rig ht	Thr u	Lef t	Pe ds	App. Total	
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	17	17	77	0	111	43	25	15	0	317	10	11	29	0	50	31	37	14	0	418	896
Percent	15.3	15.3	69.4	0.0		13.6	8.1	4.7	0.0		20.0	22.0	58.0	0.0		7.4	8.9	3.3	0.0		
07:45 Volume	4	6	26	0	36	17	87	8	0	112	1	4	4	0	9	10	93	2	0	105	262
Peak Factor																					0.855
High Int.	07:45 AM					07:45 AM					08:00 AM					07:30 AM					
Volume	4	6	26	0	36	17	87	8	0	112	5	4	11	0	20	11	98	1	0	110	
Peak Factor	0.77					0.70					0.62					0.95					
	1					8					5					0					



Counts by LSC

LSC Transportation Consultants, Inc.

File Name : Beacon Lite Rd - Hwy 105 Noon
 Site Code : 00164420
 Start Date : 05/30/2017
 Page No : 1

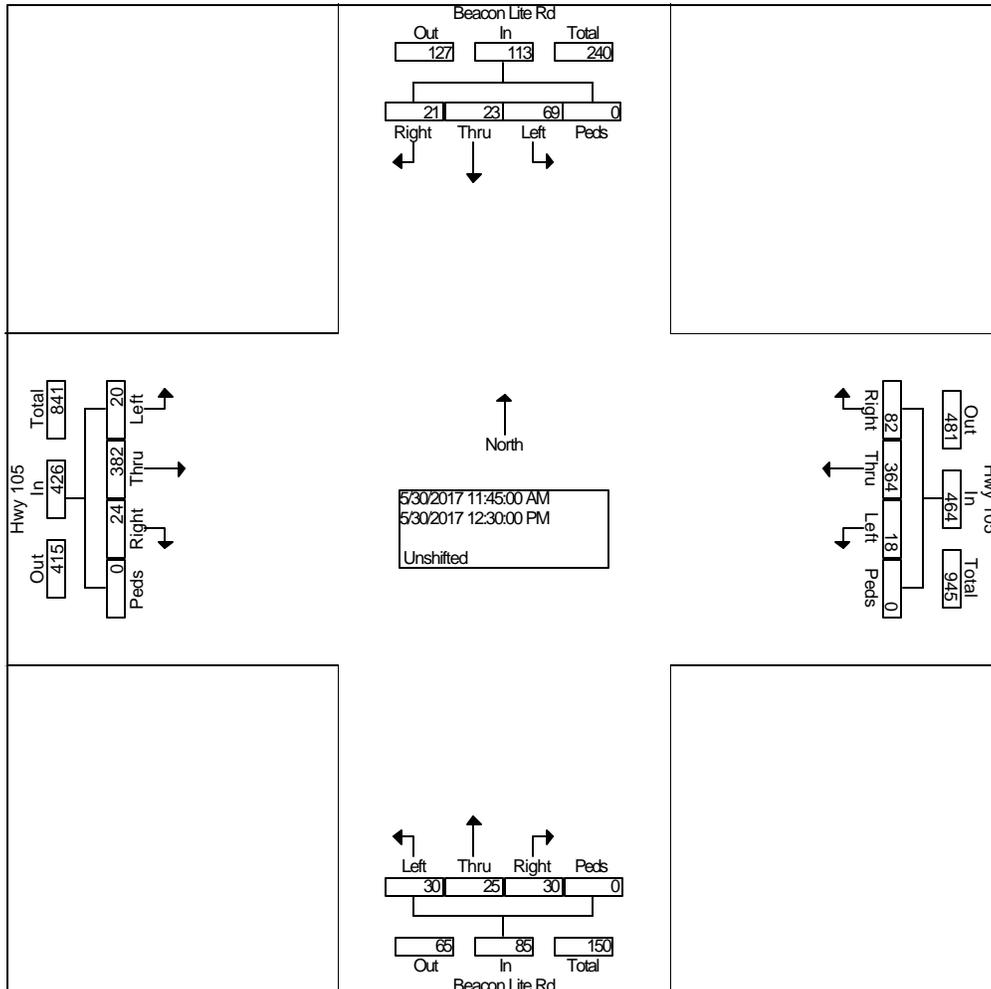
Groups Printed- Unshifted

Start Time	Beacon Lite Rd From North				Hwy 105 From East				Beacon Lite Rd From South				Hwy 105 From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
11:30 AM	4	4	14	0	12	74	4	0	6	6	4	0	2	88	2	0	220
11:45 AM	3	8	13	0	20	94	5	0	6	8	6	0	5	108	6	0	282
Total	7	12	27	0	32	168	9	0	12	14	10	0	7	196	8	0	502
12:00 PM	3	8	16	0	19	76	5	0	8	3	8	0	6	103	2	0	257
12:15 PM	9	4	18	0	24	92	5	0	8	8	9	0	7	88	7	0	279
12:30 PM	6	3	22	0	19	102	3	0	8	6	7	0	6	83	5	0	270
12:45 PM	2	5	17	0	15	83	5	0	6	5	7	0	4	100	4	0	253
Total	20	20	73	0	77	353	18	0	30	22	31	0	23	374	18	0	1059
01:00 PM	3	5	20	0	19	95	4	0	4	5	10	0	7	98	5	0	275
01:15 PM	3	1	15	0	20	85	3	0	1	5	12	0	2	95	0	0	242
Grand Total	33	38	135	0	148	701	34	0	47	46	63	0	39	763	31	0	2078
Apprch %	16.0	18.4	65.5	0.0	16.8	79.4	3.9	0.0	30.1	29.5	40.4	0.0	4.7	91.6	3.7	0.0	
Total %	1.6	1.8	6.5	0.0	7.1	33.7	1.6	0.0	2.3	2.2	3.0	0.0	1.9	36.7	1.5	0.0	

Counts by LSC

File Name : Beacon Lite Rd - Hwy 105 Noon
 Site Code : 00164420
 Start Date : 05/30/2017
 Page No : 2

Start Time	Beacon Lite Rd From North					Hwy 105 From East					Beacon Lite Rd From South					Hwy 105 From West					Int. Total
	Rig ht	Thr u	Lef t	Pe ds	App. Total	Rig ht	Thr u	Lef t	Pe ds	App. Total	Rig ht	Thr u	Lef t	Pe ds	App. Total	Rig ht	Thr u	Lef t	Pe ds	App. Total	
Peak Hour From 11:30 AM to 01:15 PM - Peak 1 of 1																					
Intersection	11:45 AM																				
Volume	21	23	69	0	113	82	36	18	0	464	30	25	30	0	85	24	38	20	0	426	1088
Percent	18.6	20.4	61.1	0.0		17.7	78.4	3.9	0.0		35.3	29.4	35.3	0.0		5.6	89.7	4.7	0.0		
11:45 Volume	3	8	13	0	24	20	94	5	0	119	6	8	6	0	20	5	10	8	0	119	282
Peak Factor	0.965																				
High Int.	12:15 PM					12:30 PM					12:15 PM					11:45 AM					
Volume	9	4	18	0	31	19	10	3	0	124	8	8	9	0	25	5	10	8	0	119	
Peak Factor	0.91					0.93					0.85					0.89					
	1					5					0					5					



Counts by LSC

LSC Transportation Consultants, Inc.

File Name : Beacon Lite Rd - Hwy 105 Mid
 Site Code : 00164420
 Start Date : 05/30/2017
 Page No : 1

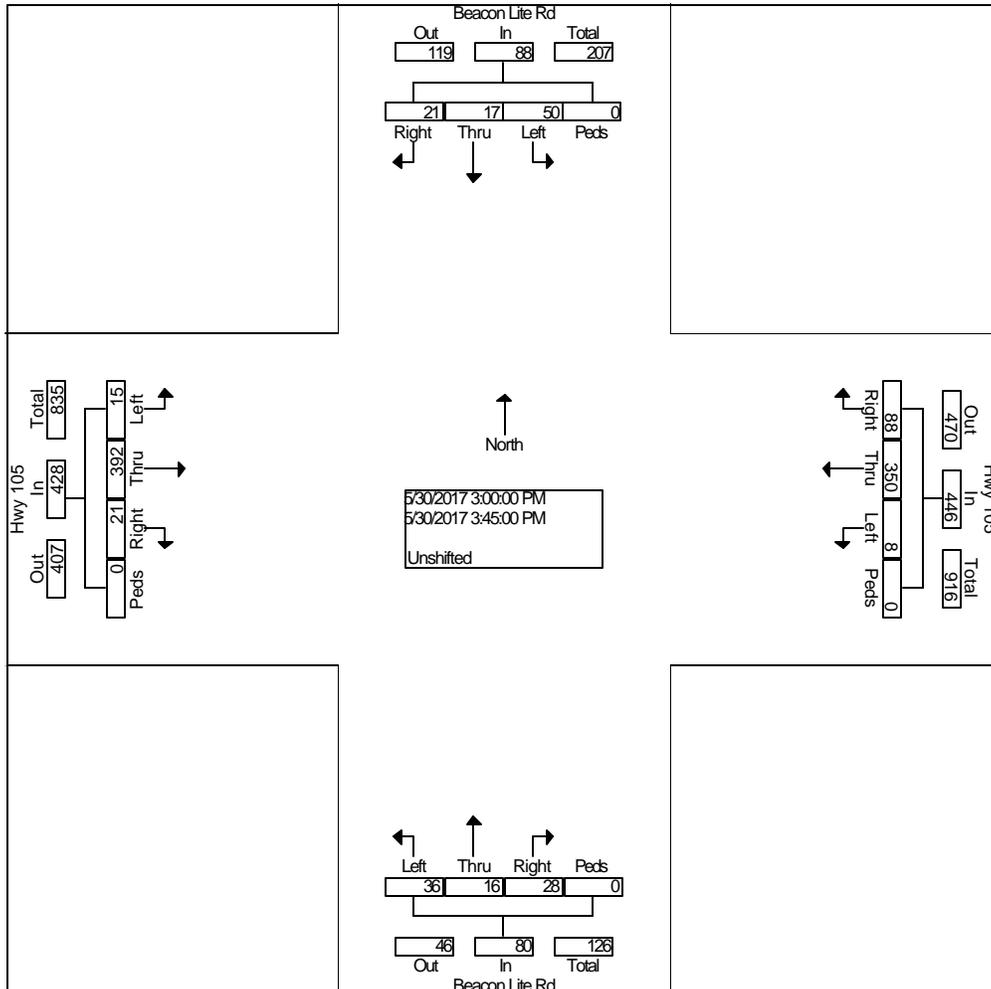
Groups Printed- Unshifted

Start Time	Beacon Lite Rd From North				Hwy 105 From East				Beacon Lite Rd From South				Hwy 105 From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
02:00 PM	1	2	10	0	16	68	2	0	4	2	12	0	8	76	4	0	205
02:15 PM	2	7	7	0	14	78	3	0	6	5	5	0	11	104	2	0	244
02:30 PM	3	2	14	0	19	83	6	0	5	3	6	0	4	105	2	0	252
02:45 PM	3	9	7	0	19	84	2	0	2	3	7	0	8	68	4	0	216
Total	9	20	38	0	68	313	13	0	17	13	30	0	31	353	12	0	917
03:00 PM	4	3	14	0	22	97	3	0	5	4	12	0	2	95	2	0	263
03:15 PM	6	5	6	0	22	73	1	0	10	6	9	0	9	106	2	0	255
03:30 PM	5	3	14	0	23	86	3	0	8	4	7	0	6	88	6	0	253
03:45 PM	6	6	16	0	21	94	1	0	5	2	8	0	4	103	5	0	271
Total	21	17	50	0	88	350	8	0	28	16	36	0	21	392	15	0	1042
Grand Total	30	37	88	0	156	663	21	0	45	29	66	0	52	745	27	0	1959
Apprch %	19.4	23.9	56.8	0.0	18.6	78.9	2.5	0.0	32.1	20.7	47.1	0.0	6.3	90.4	3.3	0.0	
Total %	1.5	1.9	4.5	0.0	8.0	33.8	1.1	0.0	2.3	1.5	3.4	0.0	2.7	38.0	1.4	0.0	

Counts by LSC

File Name : Beacon Lite Rd - Hwy 105 Mid
 Site Code : 00164420
 Start Date : 05/30/2017
 Page No : 2

Start Time	Beacon Lite Rd From North					Hwy 105 From East					Beacon Lite Rd From South					Hwy 105 From West					Int. Total	
	Rig ht	Thr u	Lef t	Pe ds	App. Total	Rig ht	Thr u	Lef t	Pe ds	App. Total	Rig ht	Thr u	Lef t	Pe ds	App. Total	Rig ht	Thr u	Lef t	Pe ds	App. Total		
Peak Hour From 02:00 PM to 03:45 PM - Peak 1 of 1																						
Intersection	03:00 PM																					
Volume	21	17	50	0	88	88	35	8	0	446	28	16	36	0	80	21	39	15	0	428	1042	
Percent	23.9	19.3	56.8	0.0		19.7	78.5	1.8	0.0		35.0	20.0	45.0	0.0		4.9	91.6	3.5	0.0			
03:45 Volume	6	6	16	0	28	21	94	1	0	116	5	2	8	0	15	4	10	3	5	0	112	271
Peak Factor	0.961																					
High Int.	03:45 PM					03:00 PM					03:15 PM					03:15 PM						
Volume	6	6	16	0	28	22	97	3	0	122	10	6	9	0	25	9	10	6	2	0	117	
Peak Factor	0.786					0.914					0.800					0.915						



LSC Transportation Consultants, Inc.

545 E. Pikes Peak Ave., #210

LSC Transportation Consultants, Inc. Colorado Springs, CO 80903 Name : Beacon Lite Rd - Hwy 105 PM

(719) 633-2868

Site Code : 00164420

Start Date : 06/23/2016

Page No : 1

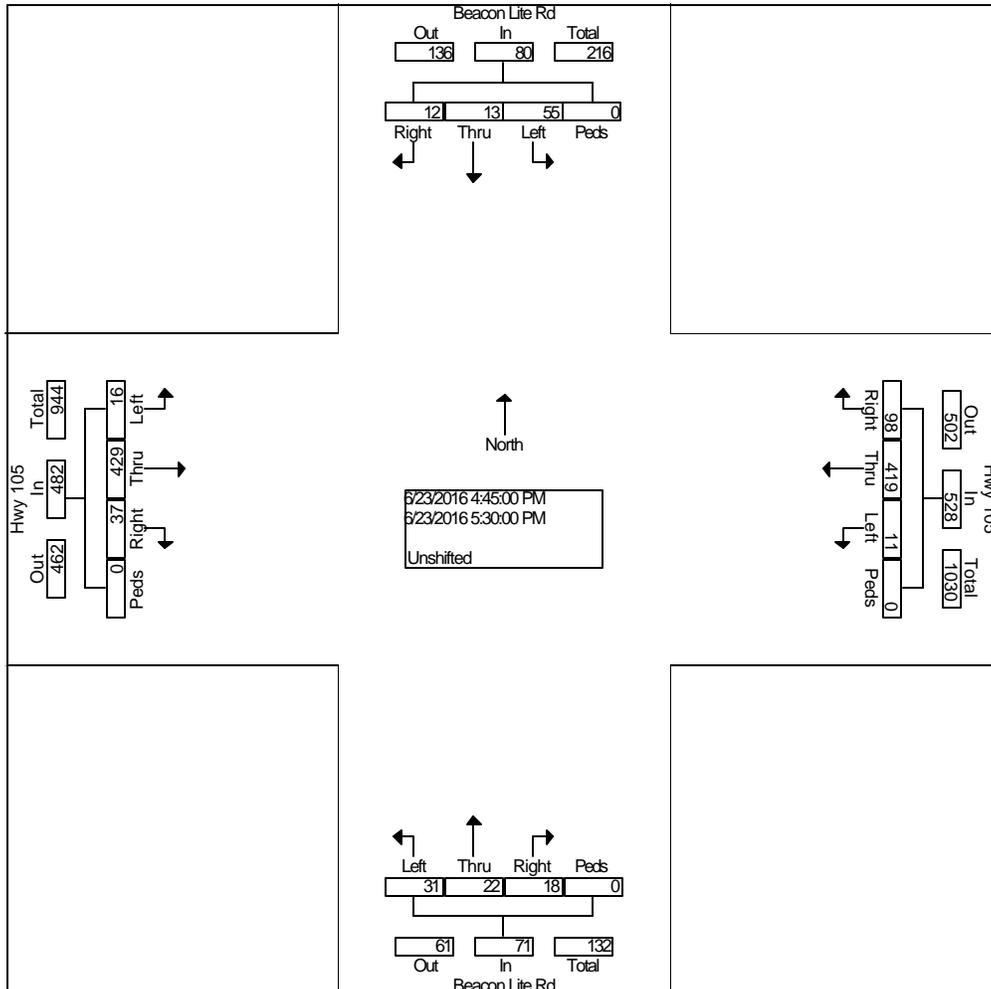
Groups Printed- Unshifted

Start Time	Beacon Lite Rd From North				Hwy 105 From East				Beacon Lite Rd From South				Hwy 105 From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
04:00 PM	2	5	21	0	26	109	4	0	3	4	13	0	7	116	5	0	315
04:15 PM	3	2	10	0	18	95	3	0	7	5	10	0	6	135	2	0	296
04:30 PM	0	7	16	0	25	96	2	1	5	4	11	0	7	86	3	0	263
04:45 PM	4	2	14	0	18	99	2	0	4	8	10	0	10	103	4	0	278
Total	9	16	61	0	87	399	11	1	19	21	44	0	30	440	14	0	1152
05:00 PM	2	5	13	0	32	97	3	0	3	4	8	0	9	115	4	0	295
05:15 PM	1	6	15	0	24	105	2	0	6	3	6	0	14	113	7	0	302
05:30 PM	5	0	13	0	24	118	4	0	5	7	7	0	4	98	1	0	286
05:45 PM	3	3	11	0	22	115	2	0	4	6	5	0	3	102	2	0	278
Total	11	14	52	0	102	435	11	0	18	20	26	0	30	428	14	0	1161
Grand Total	20	30	113	0	189	834	22	1	37	41	70	0	60	868	28	0	2313
Apprch %	12.3	18.4	69.3	0.0	18.1	79.7	2.1	0.1	25.0	27.7	47.3	0.0	6.3	90.8	2.9	0.0	
Total %	0.9	1.3	4.9	0.0	8.2	36.1	1.0	0.0	1.6	1.8	3.0	0.0	2.6	37.5	1.2	0.0	

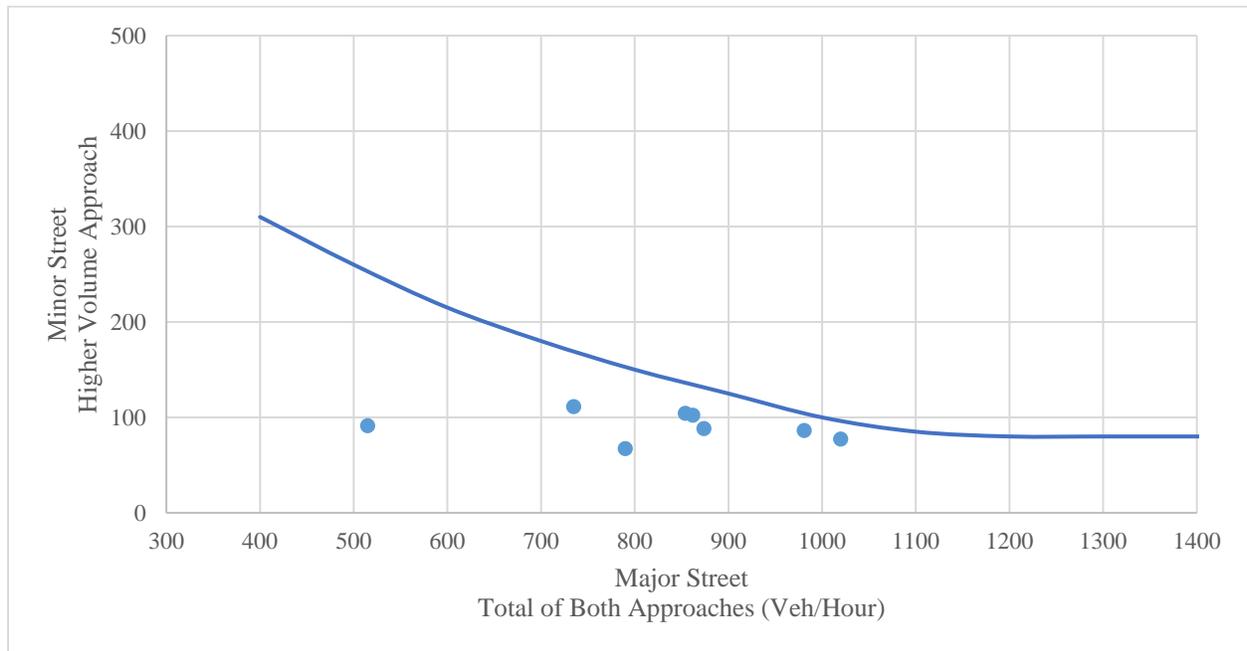
LSC Transportation Consultants, Inc.
 545 E. Pikes Peak Ave., #210
 Colorado Springs, CO 80903
 (719) 633-2868

Project Name : Beacon Lite Rd - Hwy 105 PM
 Site Code : 00164420
 Start Date : 06/23/2016
 Page No : 2

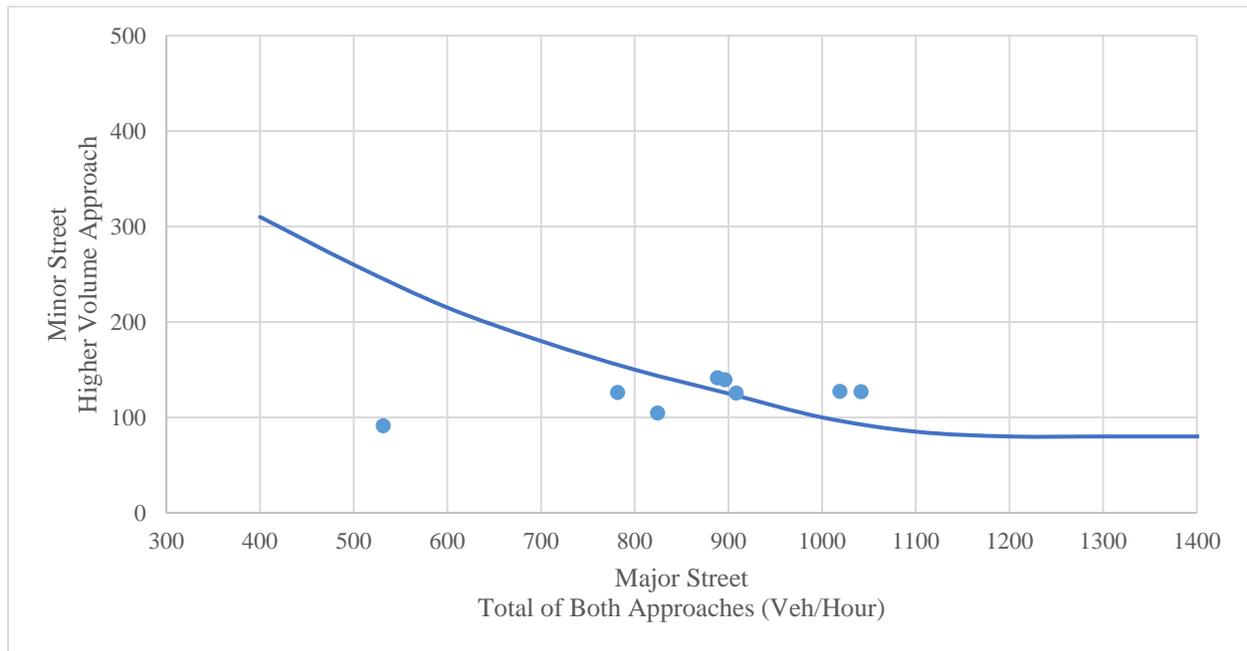
Start Time	Beacon Lite Rd From North					Hwy 105 From East					Beacon Lite Rd From South					Hwy 105 From West					Int. Total
	Rig ht	Thr u	Lef t	Pe ds	App. Total	Rig ht	Thr u	Lef t	Pe ds	App. Total	Rig ht	Thr u	Lef t	Pe ds	App. Total	Rig ht	Thr u	Lef t	Pe ds	App. Total	
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:45 PM																				
Volume	12	13	55	0	80	98	41	11	0	528	18	22	31	0	71	37	42	16	0	482	1161
Percent	15.0	16.3	68.8	0.0		18.6	79.4	2.1	0.0		25.4	31.0	43.7	0.0		7.7	89.0	3.3	0.0		
05:15 Volume	1	6	15	0	22	24	10	2	0	131	6	3	6	0	15	14	11	7	0	134	302
Peak Factor	0.961																				
High Int.	05:15 PM					05:30 PM					04:45 PM					05:15 PM					
Volume	1	6	15	0	22	24	11	4	0	146	4	8	10	0	22	14	11	7	0	134	
Peak Factor	0.909					0.904					0.807					0.899					



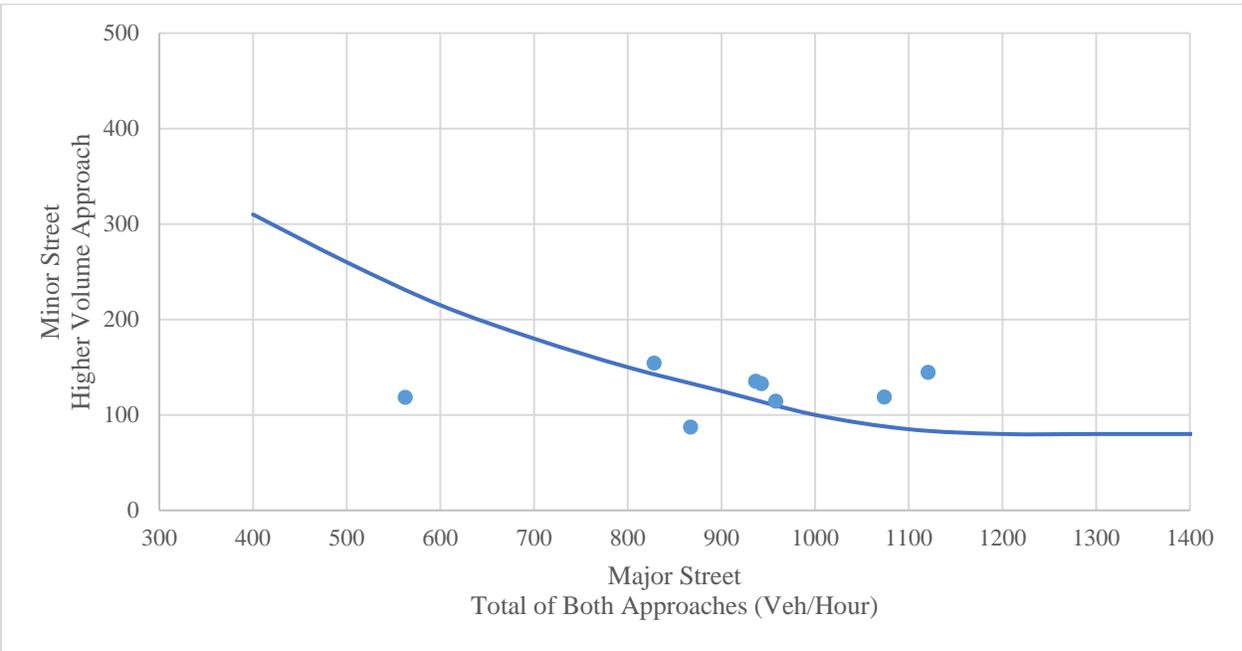
2016 Existing					
Start	End	Major	Minor	4-Hour Warrant Threshold Met?	8-Hour Warrant Threshold Met?
6:30	7:30	515	91	No	No
7:30	8:30	735	111	No	Yes
11:30	12:30	854	104	No	Yes
12:30	1:30	862	102	No	Yes
2:00	3:00	790	67	No	No
3:00	4:00	874	88	No	No
4:00	5:00	981	86	No	No
5:00	6:00	1020	77	No	No
# of hours meeting respective warrant thresholds/hours required to satisfy the warrant (warrant satisfied?)				0 (No)	3 (No)



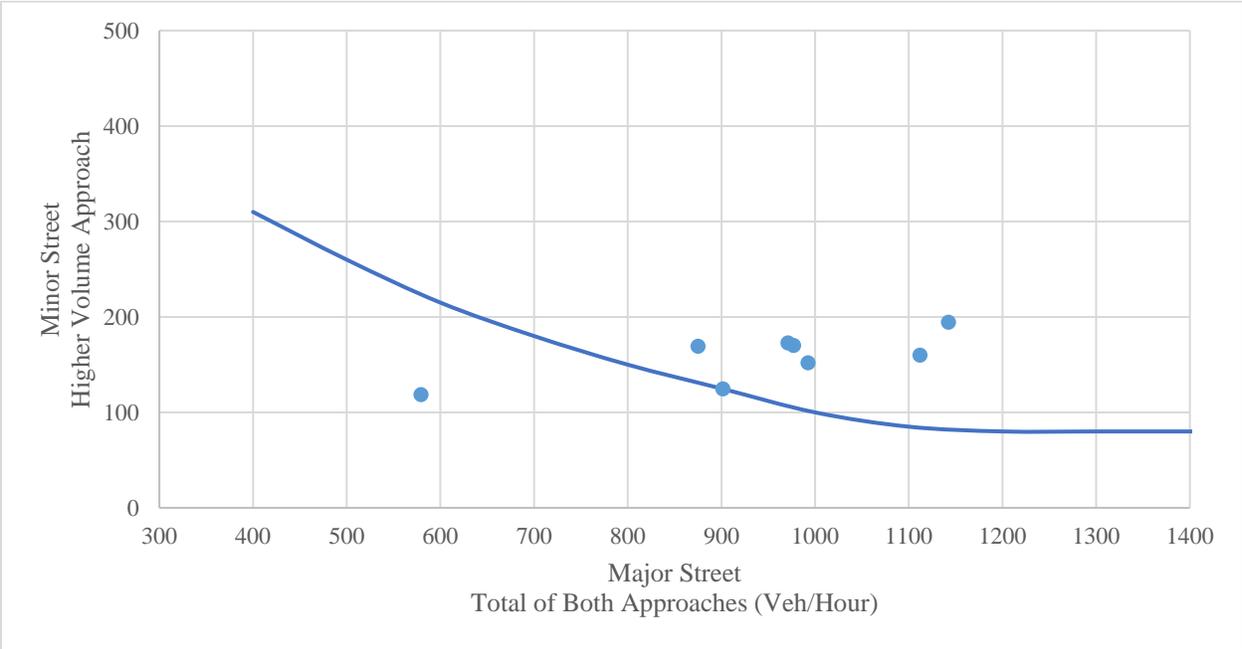
2016 Existing + Site					
Start	End	Major	Minor	4-Hour Warrant Threshold Met?	8-Hour Warrant Threshold Met?
6:30	7:30	532	91	No	No
7:30	8:30	782	126	No	Yes
11:30	12:30	888	141	Yes	Yes
12:30	1:30	896	139	Yes	Yes
2:00	3:00	824	104	No	Yes
3:00	4:00	908	125	Yes	Yes
4:00	5:00	1019	127	Yes	Yes
5:00	6:00	1042	127	Yes	Yes
<i># of hours meeting respective warrant thresholds/hours required to satisfy the warrant (warrant satisfied?)</i>				5 (Yes)	7 (No)



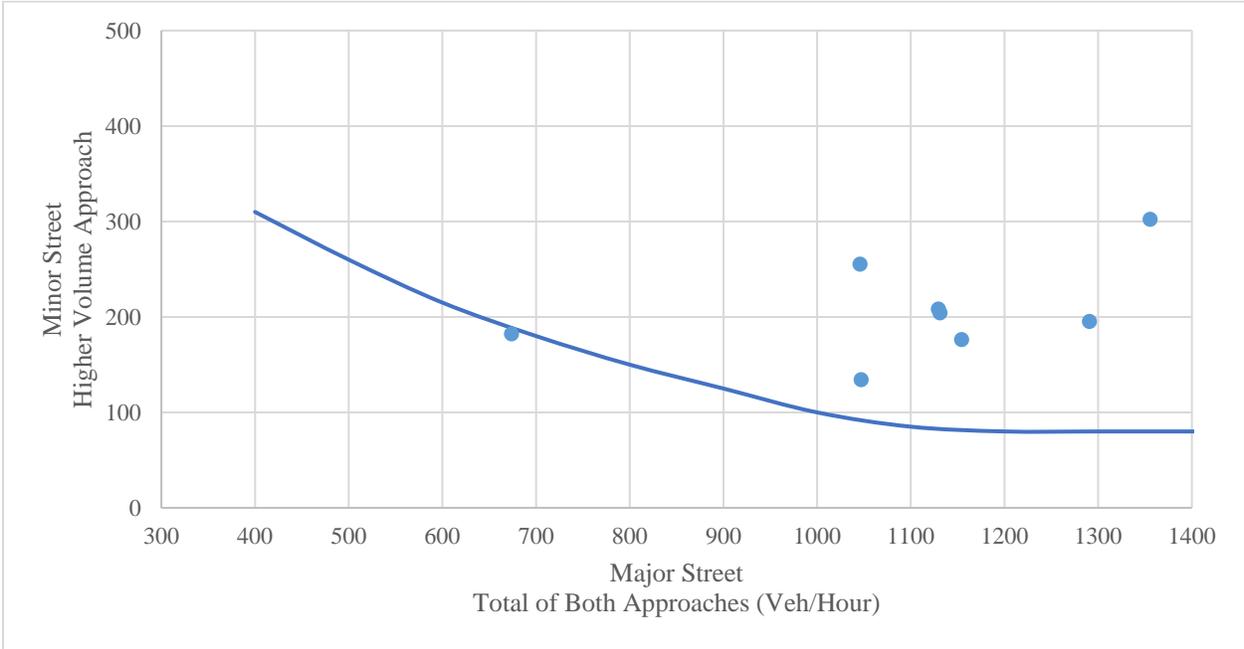
2022 Background					
Start	End	Major	Minor	4-Hour Warrant Threshold Met?	8-Hour Warrant Threshold Met?
6:30	7:30	563	118	No	Yes
7:30	8:30	828	154	Yes	Yes
11:30	12:30	937	135	Yes	Yes
12:30	1:30	943	133	Yes	Yes
2:00	3:00	867	87	No	No
3:00	4:00	958	114	Yes	Yes
4:00	5:00	1074	119	Yes	Yes
5:00	6:00	1121	145	Yes	Yes
# of hours meeting respective warrant thresholds/hours required to satisfy the warrant (warrant satisfied?)				6 (Yes)	7 (No)



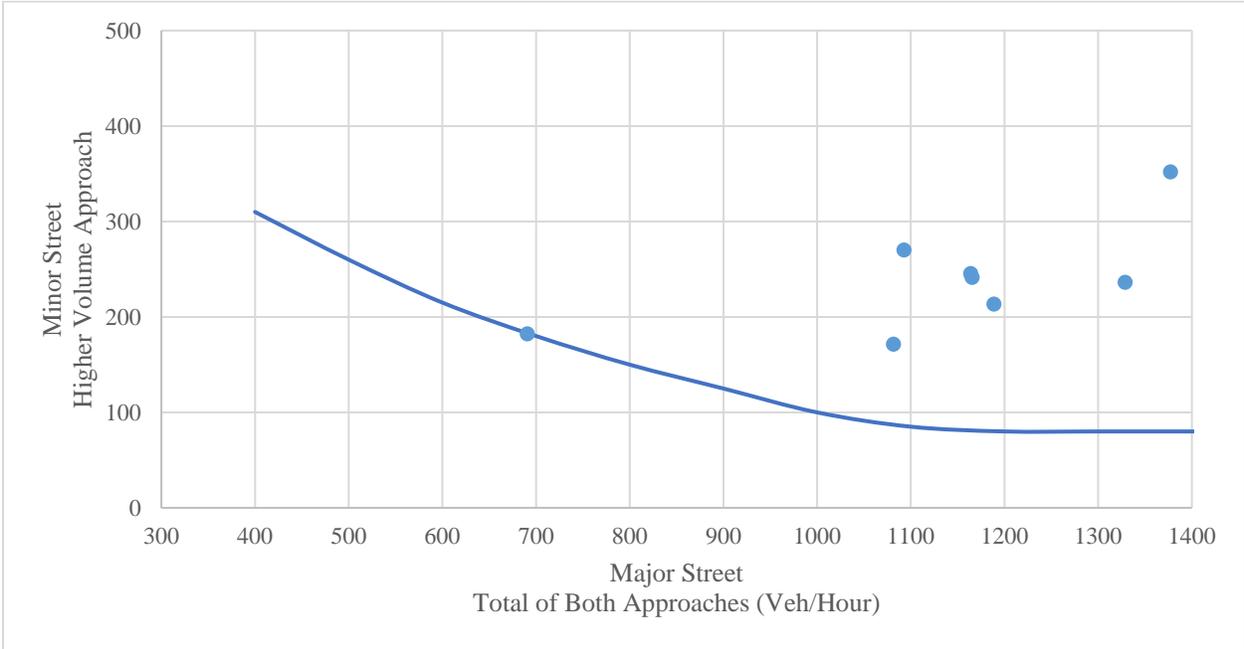
2022 Background + Site					
Start	End	Major	Minor	4-Hour Warrant Threshold Met?	8-Hour Warrant Threshold Met?
6:30	7:30	579	118	No	Yes
7:30	8:30	875	169	Yes	Yes
11:30	12:30	971	172	Yes	Yes
12:30	1:30	977	170	Yes	Yes
2:00	3:00	902	124	No	Yes
3:00	4:00	993	152	Yes	Yes
4:00	5:00	1112	160	Yes	Yes
5:00	6:00	1142	194	Yes	Yes
<i># of hours meeting respective warrant thresholds/hours required to satisfy the warrant (warrant satisfied?)</i>				6 (Yes)	8 (Yes)



2037 Background					
Start	End	Major	Minor	4-Hour Warrant Threshold Met?	8-Hour Warrant Threshold Met?
6:30	7:30	674	182	No	Yes
7:30	8:30	1046	255	Yes	Yes
11:30	12:30	1130	208	Yes	Yes
12:30	1:30	1131	204	Yes	Yes
2:00	3:00	1047	134	Yes	Yes
3:00	4:00	1154	176	Yes	Yes
4:00	5:00	1291	195	Yes	Yes
5:00	6:00	1356	302	Yes	Yes
<i># of hours meeting respective warrant thresholds/hours required to satisfy the warrant (warrant satisfied?)</i>				7 (Yes)	8 (Yes)



2037 Background + Site					
Start	End	Major	Minor	4-Hour Warrant Threshold Met?	8-Hour Warrant Threshold Met?
6:30	7:30	691	182	No	Yes
7:30	8:30	1093	270	Yes	Yes
11:30	12:30	1164	245	Yes	Yes
12:30	1:30	1166	241	Yes	Yes
2:00	3:00	1082	171	Yes	Yes
3:00	4:00	1189	213	Yes	Yes
4:00	5:00	1329	236	Yes	Yes
5:00	6:00	1377	352	Yes	Yes
# of hours meeting respective warrant thresholds/hours required to satisfy the warrant (warrant satisfied?)				7 (Yes)	8 (Yes)



2016 -- EXISTING																	
Time		Southbound				Westbound				Northbound				Eastbound			
Start	End	SBR	SBT	SBL	SB ped	WBR	WBT	WBL	WB ped	NBR	NBT	NBL	NB ped	EBR	EBT	EBL	EB ped
6:30	7:30	14	11	66	0	37	150	12	0	15	10	14	0	15	295	6	0
7:30	8:30	17	17	77	0	43	259	15	0	10	11	29	0	31	373	14	0
11:30	12:30	19	24	61	0	75	336	19	0	28	25	27	0	20	387	17	0
12:30	1:30	14	14	74	0	73	365	15	0	19	21	36	0	19	376	14	0
2:00	3:00	9	20	38	0	68	313	13	0	17	13	30	0	31	353	12	0
3:00	4:00	21	17	50	0	88	350	8	0	28	16	36	0	21	392	15	0
4:00	5:00	9	16	61	0	87	399	11	0	19	21	44	0	30	440	14	0
5:00	6:00	11	14	52	0	102	435	11	0	18	20	26	0	30	428	14	0

2022 -- BACKGROUND																	
Time		Southbound				Westbound				Northbound				Eastbound			
Start	End	SBR	SBT	SBL	SB ped	WBR	WBT	WBL	WB ped	NBR	NBT	NBL	NB ped	EBR	EBT	EBL	EB ped
6:30	7:30	18	14	86	0	48	159	16	0	16	11	15	0	20	313	8	0
7:30	8:30	22	27	105	0	69	275	20	0	11	12	31	0	41	404	20	0
11:30	12:30	25	31	79	0	98	356	25	0	30	27	29	0	26	410	22	0
12:30	1:30	18	18	96	0	95	387	20	0	20	22	38	0	25	399	18	0
2:00	3:00	12	26	49	0	88	332	17	0	18	14	32	0	40	374	16	0
3:00	4:00	27	22	65	0	114	371	10	0	30	17	38	0	27	416	20	0
4:00	5:00	13	22	83	0	113	423	14	0	20	22	47	0	39	466	18	0
5:00	6:00	18	31	96	0	128	461	14	0	19	21	28	0	41	454	23	0

2036 -- BACKGROUND																	
Time		Southbound				Westbound				Northbound				Eastbound			
Start	End	SBR	SBT	SBL	SB ped	WBR	WBT	WBL	WB ped	NBR	NBT	NBL	NB ped	EBR	EBT	EBL	EB ped
6:30	7:30	28	22	132	0	74	180	24	0	30	20	28	0	30	354	12	0
7:30	8:30	35	50	170	0	130	311	30	0	25	55	50	0	65	475	35	0
11:30	12:30	38	48	122	0	150	403	38	0	56	50	54	0	40	464	34	0
12:30	1:30	28	28	148	0	146	438	30	0	38	42	72	0	38	451	28	0
2:00	3:00	18	40	76	0	136	376	26	0	34	26	60	0	62	424	24	0
3:00	4:00	42	34	100	0	176	420	16	0	56	32	72	0	42	470	30	0
4:00	5:00	23	37	135	0	174	479	22	0	38	42	88	0	60	528	28	0
5:00	6:00	35	70	197	0	190	522	20	0	50	85	100	0	65	514	45	0

Intersection

Int Delay, s/veh 5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔		↔			↔	
Traffic Vol, veh/h	14	373	31	15	259	43	29	11	0	77	17	17
Future Vol, veh/h	14	373	31	15	259	43	29	11	0	77	17	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	71	71	71	95	95	95	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	393	33	21	365	61	31	12	0	100	22	22

Major/Minor	Major1	Major2	Minor1	Minor2								
Conflicting Flow All	365	0	0	425	0	0	867	845	-	851	862	365
Stage 1	-	-	-	-	-	-	438	438	-	407	407	-
Stage 2	-	-	-	-	-	-	429	407	-	444	455	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	-	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1194	-	-	1134	-	-	273	300	0	280	293	680
Stage 1	-	-	-	-	-	-	597	579	0	621	597	-
Stage 2	-	-	-	-	-	-	604	597	0	593	569	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1194	-	-	1134	-	-	241	288	-	263	281	680
Mov Cap-2 Maneuver	-	-	-	-	-	-	241	288	-	263	281	-
Stage 1	-	-	-	-	-	-	587	569	-	610	583	-
Stage 2	-	-	-	-	-	-	549	583	-	571	559	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.4	22.1	28.6
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	252	1194	-	-	1134	-	-	293
HCM Lane V/C Ratio	0.167	0.012	-	-	0.019	-	-	0.492
HCM Control Delay (s)	22.1	8.1	0	-	8.2	0	-	28.6
HCM Lane LOS	C	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	0.6	0	-	-	0.1	-	-	2.6

Intersection

Int Delay, s/veh 3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔		↔			↔	
Traffic Vol, veh/h	16	429	37	11	419	98	31	22	0	55	13	12
Future Vol, veh/h	16	429	37	11	419	98	31	22	0	55	13	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	95	95	95	95	95	95	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	477	41	12	441	103	33	23	0	60	14	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	441	0	0	518	0	0	1011	997	-	1008	1017	441
Stage 1	-	-	-	-	-	-	533	533	-	464	464	-
Stage 2	-	-	-	-	-	-	478	464	-	544	553	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	-	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1119	-	-	1048	-	-	218	244	0	219	238	616
Stage 1	-	-	-	-	-	-	531	525	0	578	564	-
Stage 2	-	-	-	-	-	-	568	564	0	523	514	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1119	-	-	1048	-	-	197	234	-	196	229	616
Mov Cap-2 Maneuver	-	-	-	-	-	-	197	234	-	196	229	-
Stage 1	-	-	-	-	-	-	519	513	-	565	554	-
Stage 2	-	-	-	-	-	-	533	554	-	488	502	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.2	28.1	30.9
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	211	1119	-	-	1048	-	-	224
HCM Lane V/C Ratio	0.264	0.016	-	-	0.011	-	-	0.388
HCM Control Delay (s)	28.1	8.3	0	-	8.5	0	-	30.9
HCM Lane LOS	D	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	1	0	-	-	0	-	-	1.7

Intersection												
Int Delay, s/veh	6.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔		↔			↔	
Traffic Vol, veh/h	14	373	31	15	259	43	29	11	0	77	17	17
Future Vol, veh/h	17	373	31	15	259	87	29	17	0	90	19	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	71	71	71	95	95	95	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	393	33	21	365	123	31	18	0	117	25	23

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	488	0	0	426	0	0	939	976	-	862	869	365
Stage 1	-	-	-	-	-	-	446	446	-	407	407	-
Stage 2	-	-	-	-	-	-	493	530	-	455	462	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	-	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1075	-	-	1133	-	-	244	251	0	275	290	680
Stage 1	-	-	-	-	-	-	591	574	0	621	597	-
Stage 2	-	-	-	-	-	-	558	527	0	585	565	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1075	-	-	1133	-	-	212	239	-	250	276	680
Mov Cap-2 Maneuver	-	-	-	-	-	-	212	239	-	250	276	-
Stage 1	-	-	-	-	-	-	578	561	-	607	581	-
Stage 2	-	-	-	-	-	-	503	513	-	554	553	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.3	25.8	35
HCM LOS			D	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	221	1075	-	-	1133	-	-	279
HCM Lane V/C Ratio	0.219	0.017	-	-	0.019	-	-	0.591
HCM Control Delay (s)	25.8	8.4	0	-	8.2	0	-	35
HCM Lane LOS	D	A	A	-	A	A	-	E
HCM 95th %tile Q(veh)	0.8	0.1	-	-	0.1	-	-	3.5

Intersection

Int Delay, s/veh 0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	68	0	0	111
Future Vol, veh/h	16	2	68	53	3	111
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	2	80	62	4	131

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	250	111	0	0	142	0
Stage 1	111	-	-	-	-	-
Stage 2	139	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	739	942	-	-	1441	-
Stage 1	914	-	-	-	-	-
Stage 2	888	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	737	942	-	-	1441	-
Mov Cap-2 Maneuver	737	-	-	-	-	-
Stage 1	911	-	-	-	-	-
Stage 2	888	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	9.9		0		0.2
HCM LOS	A				

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	755	1441	-
HCM Lane V/C Ratio	-	-	0.026	0.002	-
HCM Control Delay (s)	-	-	9.9	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Lanes, Volumes, Timings
6: Beacon Lite Rd & SH 105

Existing + Site (Signalized)
AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕		↕			↕	
Traffic Volume (vph)	14	373	31	15	259	43	29	11	0	77	17	17
Future Volume (vph)	17	373	31	15	259	87	29	17	0	90	19	18
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		100	0		0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990				0.850						0.981
Flt Protected		0.998			0.997			0.969				0.966
Satd. Flow (prot)	0	1840	0	0	1857	1583	0	1805	0	0	1765	0
Flt Permitted		0.977			0.965			0.778				0.758
Satd. Flow (perm)	0	1802	0	0	1798	1583	0	1449	0	0	1385	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12				123						23
Link Speed (mph)		30			30			30				30
Link Distance (ft)		367			441			230				2737
Travel Time (s)		8.3			10.0			5.2				62.2
Peak Hour Factor	0.95	0.95	0.95	0.71	0.71	0.71	0.95	0.95	0.95	0.77	0.77	0.77
Adj. Flow (vph)	18	393	33	21	365	123	31	18	0	117	25	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	444	0	0	386	123	0	49	0	0	165	0
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right									
Median Width(ft)		0			0			0				0
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2				6
Permitted Phases	4			8		8	2			6		

Lanes, Volumes, Timings
6: Beacon Lite Rd & SH 105

Existing + Site (Signalized)

AM

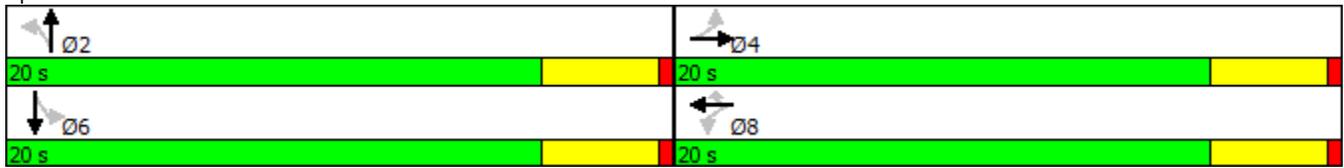


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0	20.0	20.0	20.0		20.0	20.0	
Total Split (s)	20.0	20.0		20.0	20.0	20.0	20.0	20.0		20.0	20.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	16.0	16.0		16.0	16.0	16.0	16.0	16.0		16.0	16.0	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0			0.0	0.0		0.0			0.0	
Total Lost Time (s)		4.0			4.0	4.0		4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Min	Min		Min	Min	
Walk Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		11.7			11.7	11.7		8.4			8.4	
Actuated g/C Ratio		0.41			0.41	0.41		0.29			0.29	
v/c Ratio		0.60			0.52	0.17		0.11			0.39	
Control Delay		10.5			9.5	2.3		8.8			10.6	
Queue Delay		0.0			0.0	0.0		0.0			0.0	
Total Delay		10.5			9.5	2.3		8.8			10.6	
LOS		B			A	A		A			B	
Approach Delay		10.5			7.8			8.8			10.6	
Approach LOS		B			A			A			B	
Queue Length 50th (ft)		40			35	0		5			15	
Queue Length 95th (ft)		112			69	9		20			40	
Internal Link Dist (ft)		287			361			150			2657	
Turn Bay Length (ft)												
Base Capacity (vph)		1061			1054	979		849			821	
Starvation Cap Reductn		0			0	0		0			0	
Spillback Cap Reductn		0			0	0		0			0	
Storage Cap Reductn		0			0	0		0			0	
Reduced v/c Ratio		0.42			0.37	0.13		0.06			0.20	

Intersection Summary

Area Type:	Other
Cycle Length:	40
Actuated Cycle Length:	28.5
Natural Cycle:	40
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.60
Intersection Signal Delay:	9.2
Intersection Capacity Utilization:	46.5%
Analysis Period (min):	15
Intersection LOS:	A
ICU Level of Service:	A

Splits and Phases: 6: Beacon Lite Rd & SH 105



Intersection

Int Delay, s/veh 0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	68	0	0	111
Future Vol, veh/h	16	2	68	53	3	111
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	2	80	62	4	131

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	250	111	0	0	142	0
Stage 1	111	-	-	-	-	-
Stage 2	139	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	739	942	-	-	1441	-
Stage 1	914	-	-	-	-	-
Stage 2	888	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	737	942	-	-	1441	-
Mov Cap-2 Maneuver	737	-	-	-	-	-
Stage 1	911	-	-	-	-	-
Stage 2	888	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	9.9		0		0.2
HCM LOS	A				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 755	1441	-
HCM Lane V/C Ratio	-	- 0.026	0.002	-
HCM Control Delay (s)	-	- 9.9	7.5	0
HCM Lane LOS	-	- A	A	A
HCM 95th %tile Q(veh)	-	- 0.1	0	-

Intersection												
Int Delay, s/veh	6.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔		↔			↔	
Traffic Vol, veh/h	16	429	37	11	419	98	31	22	0	55	13	12
Future Vol, veh/h	17	429	37	11	419	119	31	25	0	96	19	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	95	95	95	95	95	95	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	19	477	41	12	441	125	33	26	0	104	21	16
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	441	0	0	518	0	0	1018	999	-	1012	1020	441
Stage 1	-	-	-	-	-	-	535	535	-	464	464	-
Stage 2	-	-	-	-	-	-	483	464	-	548	556	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	-	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1119	-	-	1048	-	-	216	243	0	218	237	616
Stage 1	-	-	-	-	-	-	529	524	0	578	564	-
Stage 2	-	-	-	-	-	-	565	564	0	521	513	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1119	-	-	1048	-	-	190	233	-	193	227	616
Mov Cap-2 Maneuver	-	-	-	-	-	-	190	233	-	193	227	-
Stage 1	-	-	-	-	-	-	516	511	-	564	554	-
Stage 2	-	-	-	-	-	-	521	554	-	482	501	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.2			29.2			49		
HCM LOS							D			E		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	207	1119	-	-	1048	-	-	215				
HCM Lane V/C Ratio	0.285	0.017	-	-	0.011	-	-	0.657				
HCM Control Delay (s)	29.2	8.3	0	-	8.5	0	-	49				
HCM Lane LOS	D	A	A	-	A	A	-	E				
HCM 95th %tile Q(veh)	1.1	0.1	-	-	0	-	-	4				

Intersection

Int Delay, s/veh 2.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	50	0	0	80
Future Vol, veh/h	50	6	50	25	1	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	7	54	27	1	87

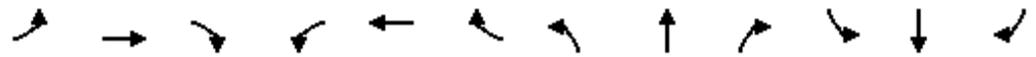
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	157	68	0	0	82	0
Stage 1	68	-	-	-	-	-
Stage 2	89	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	834	995	-	-	1515	-
Stage 1	955	-	-	-	-	-
Stage 2	934	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	833	995	-	-	1515	-
Mov Cap-2 Maneuver	833	-	-	-	-	-
Stage 1	955	-	-	-	-	-
Stage 2	933	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	9.6		0		0.1
HCM LOS	A				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 848	1515	-
HCM Lane V/C Ratio	-	- 0.072	0.001	-
HCM Control Delay (s)	-	- 9.6	7.4	0
HCM Lane LOS	-	- A	A	A
HCM 95th %tile Q(veh)	-	- 0.2	0	-

Lanes, Volumes, Timings
6: Beacon Lite Rd & SH 105

Existing + Site (Signalized)
PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕		↕	↕		↕	
Traffic Volume (vph)	16	429	37	11	419	98	31	22	0	55	13	12
Future Volume (vph)	17	429	37	11	419	119	31	25	0	96	19	15
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		100	0		0
Storage Lanes	0		0	0		1	0		1	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990				0.850						0.985
Flt Protected		0.998			0.999			0.973				0.964
Satd. Flow (prot)	0	1840	0	0	1861	1583	0	1812	1863	0	1769	0
Flt Permitted		0.979			0.983			0.802				0.745
Satd. Flow (perm)	0	1805	0	0	1831	1583	0	1494	1863	0	1367	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12				125						16
Link Speed (mph)		30			30			30				30
Link Distance (ft)		367			441			230				2737
Travel Time (s)		8.3			10.0			5.2				62.2
Peak Hour Factor	0.90	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	19	477	41	12	441	125	33	26	0	104	21	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	537	0	0	453	125	0	59	0	0	141	0
Enter Blocked Intersection	No	No	No									
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0				0
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1		2
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20		100
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20		6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex						
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm		NA
Protected Phases		4			8			2				6
Permitted Phases	4			8		8	2		2	6		

Lanes, Volumes, Timings
6: Beacon Lite Rd & SH 105

Existing + Site (Signalized)
PM

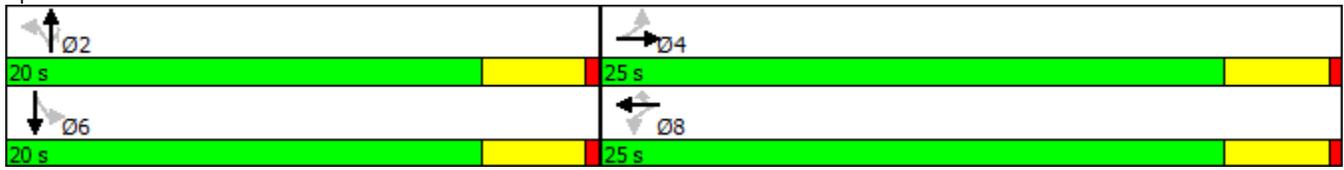


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8	8	2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	
Total Split (s)	25.0	25.0		25.0	25.0	25.0	20.0	20.0	20.0	20.0	20.0	
Total Split (%)	55.6%	55.6%		55.6%	55.6%	55.6%	44.4%	44.4%	44.4%	44.4%	44.4%	
Maximum Green (s)	21.0	21.0		21.0	21.0	21.0	16.0	16.0	16.0	16.0	16.0	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
Lost Time Adjust (s)		0.0			0.0	0.0		0.0	0.0		0.0	
Total Lost Time (s)		4.0			4.0	4.0		4.0	4.0		4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None	None	Min	Min	Min	Min	Min	
Walk Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0	0	0	0	
Act Effct Green (s)		14.2			14.2	14.2		8.5			8.5	
Actuated g/C Ratio		0.46			0.46	0.46		0.27			0.27	
v/c Ratio		0.65			0.54	0.16		0.14			0.37	
Control Delay		10.8			9.1	2.0		10.9			12.6	
Queue Delay		0.0			0.0	0.0		0.0			0.0	
Total Delay		10.8			9.1	2.0		10.9			12.6	
LOS		B			A	A		B			B	
Approach Delay		10.8			7.6			10.9			12.6	
Approach LOS		B			A			B			B	
Queue Length 50th (ft)		53			43	0		7			16	
Queue Length 95th (ft)		144			116	16		28			55	
Internal Link Dist (ft)		287			361			150			2657	
Turn Bay Length (ft)												
Base Capacity (vph)		1288			1303	1162		810			748	
Starvation Cap Reductn		0			0	0		0			0	
Spillback Cap Reductn		0			0	0		0			0	
Storage Cap Reductn		0			0	0		0			0	
Reduced v/c Ratio		0.42			0.35	0.11		0.07			0.19	

Intersection Summary

Area Type:	Other
Cycle Length:	45
Actuated Cycle Length:	31.2
Natural Cycle:	40
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.65
Intersection Signal Delay:	9.6
Intersection Capacity Utilization:	55.7%
Analysis Period (min):	15
Intersection LOS:	A
ICU Level of Service:	B

Splits and Phases: 6: Beacon Lite Rd & SH 105



Intersection

Int Delay, s/veh 2.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	50	0	0	80
Future Vol, veh/h	50	6	50	25	1	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	7	54	27	1	87

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	157	68	0	0	81	0
Stage 1	68	-	-	-	-	-
Stage 2	89	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	834	995	-	-	1517	-
Stage 1	955	-	-	-	-	-
Stage 2	934	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	833	995	-	-	1517	-
Mov Cap-2 Maneuver	833	-	-	-	-	-
Stage 1	954	-	-	-	-	-
Stage 2	934	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	9.6		0		0.1
HCM LOS	A				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 848	1517	-
HCM Lane V/C Ratio	-	- 0.072	0.001	-
HCM Control Delay (s)	-	- 9.6	7.4	0
HCM Lane LOS	-	- A	A	A
HCM 95th %tile Q(veh)	-	- 0.2	0	-

Intersection

Int Delay, s/veh 10.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔		↔			↔	
Traffic Vol, veh/h	20	405	40	20	280	70	35	25	0	105	25	20
Future Vol, veh/h	20	405	40	20	280	70	35	25	0	105	25	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	75	75	75	95	95	95	80	80	80
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	426	42	27	373	93	37	26	0	131	31	25

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	466	0	0	468	0	0	991	1009	-	929	937	373
Stage 1	-	-	-	-	-	-	489	489	-	427	427	-
Stage 2	-	-	-	-	-	-	502	520	-	502	510	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	-	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1095	-	-	1094	-	-	225	240	0	248	265	673
Stage 1	-	-	-	-	-	-	561	549	0	606	585	-
Stage 2	-	-	-	-	-	-	552	532	0	552	538	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1095	-	-	1094	-	-	187	226	-	216	249	673
Mov Cap-2 Maneuver	-	-	-	-	-	-	187	226	-	216	249	-
Stage 1	-	-	-	-	-	-	546	535	-	590	565	-
Stage 2	-	-	-	-	-	-	485	514	-	511	524	-

Approach	EB		WB		NB		SB
HCM Control Delay, s	0.4		0.5		30.9		56.7
HCM LOS					D		F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	201	1095	-	-	1094	-	-	243
HCM Lane V/C Ratio	0.314	0.019	-	-	0.024	-	-	0.772
HCM Control Delay (s)	30.9	8.4	0	-	8.4	0	-	56.7
HCM Lane LOS	D	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	1.3	0.1	-	-	0.1	-	-	5.6

Intersection

Int Delay, s/veh 39.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔		↔			↔	
Traffic Vol, veh/h	25	465	45	15	450	125	50	40	0	100	30	20
Future Vol, veh/h	25	465	45	15	450	125	50	40	0	100	30	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	75	75	75	95	95	95	80	80	80
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	489	47	20	600	167	53	42	0	125	38	25

Major/Minor	Major1	Major2	Minor1	Minor2								
Conflicting Flow All	767	0	0	536	0	0	1320	1372	-	1226	1228	600
Stage 1	-	-	-	-	-	-	565	565	-	640	640	-
Stage 2	-	-	-	-	-	-	755	807	-	586	588	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	-	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	847	-	-	1032	-	-	134	146	0	155	178	501
Stage 1	-	-	-	-	-	-	510	508	0	464	470	-
Stage 2	-	-	-	-	-	-	401	394	0	496	496	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	847	-	-	1032	-	-	99	135	-	~ 111	164	501
Mov Cap-2 Maneuver	-	-	-	-	-	-	99	135	-	~ 111	164	-
Stage 1	-	-	-	-	-	-	488	486	-	444	454	-
Stage 2	-	-	-	-	-	-	337	380	-	433	474	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.2	118.4	284.5
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	112	847	-	-	1032	-	-	133
HCM Lane V/C Ratio	0.846	0.031	-	-	0.019	-	-	1.41
HCM Control Delay (s)	118.4	9.4	0	-	8.6	0	-	284.5
HCM Lane LOS	F	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	5	0.1	-	-	0.1	-	-	12.5

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 19.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔		↔			↔	
Traffic Vol, veh/h	25	405	40	20	280	114	35	30	0	117	27	21
Future Vol, veh/h	25	405	40	20	280	114	35	30	0	117	27	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	95	95	75	75	75	95	95	95	80	80	80
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	50	426	42	27	373	152	37	32	0	146	34	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	525	0	0	468	0	0	1080	1126	-	990	995	373
Stage 1	-	-	-	-	-	-	547	547	-	427	427	-
Stage 2	-	-	-	-	-	-	533	579	-	563	568	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	-	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1042	-	-	1094	-	-	196	205	0	225	245	673
Stage 1	-	-	-	-	-	-	521	517	0	606	585	-
Stage 2	-	-	-	-	-	-	531	501	0	511	506	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1042	-	-	1094	-	-	154	185	-	181	221	673
Mov Cap-2 Maneuver	-	-	-	-	-	-	154	185	-	181	221	-
Stage 1	-	-	-	-	-	-	487	483	-	567	564	-
Stage 2	-	-	-	-	-	-	462	483	-	447	473	-

Approach	EB		WB		NB		SB
HCM Control Delay, s	0.8		0.4		40.8		111.5
HCM LOS					E		F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	167	1042	-	-	1094	-	-	206
HCM Lane V/C Ratio	0.41	0.048	-	-	0.024	-	-	1.001
HCM Control Delay (s)	40.8	8.6	0	-	8.4	0	-	111.5
HCM Lane LOS	E	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	1.8	0.2	-	-	0.1	-	-	8.8

Intersection

Int Delay, s/veh 0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	2	75	52	3	115
Future Vol, veh/h	15	2	75	52	3	115
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	2	88	61	4	135

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	262	119	0	0	149	0
Stage 1	119	-	-	-	-	-
Stage 2	143	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	727	933	-	-	1432	-
Stage 1	906	-	-	-	-	-
Stage 2	884	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	725	933	-	-	1432	-
Mov Cap-2 Maneuver	725	-	-	-	-	-
Stage 1	903	-	-	-	-	-
Stage 2	884	-	-	-	-	-

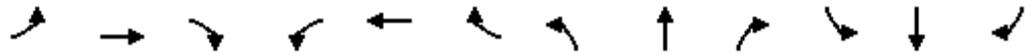
Approach	WB		NB		SB
HCM Control Delay, s	10		0		0.2
HCM LOS	B				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 745	1432	-
HCM Lane V/C Ratio	-	- 0.025	0.002	-
HCM Control Delay (s)	-	- 10	7.5	0
HCM Lane LOS	-	- B	A	A
HCM 95th %tile Q(veh)	-	- 0.1	0	-

Lanes, Volumes, Timings
6: Beacon Lite Rd & SH 105

2022 Background + Site (Signalized)

AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕		↕			↕	
Traffic Volume (vph)	25	405	40	20	280	114	35	30	0	117	27	21
Future Volume (vph)	25	405	40	20	280	114	35	30	0	117	27	21
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		100	0		0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.989				0.850						0.983
Flt Protected		0.997			0.997			0.988				0.966
Satd. Flow (prot)	0	1837	0	0	1857	1583	0	1840	0	0	1769	0
Flt Permitted		0.968			0.955							0.803
Satd. Flow (perm)	0	1783	0	0	1779	1583	0	1863	0	0	1470	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				152						8
Link Speed (mph)		30			30			30				30
Link Distance (ft)		367			441			230				2737
Travel Time (s)		8.3			10.0			5.2				62.2
Peak Hour Factor	0.95	0.95	0.95	0.75	0.75	0.75	0.95	0.25	0.95	0.80	0.80	0.80
Adj. Flow (vph)	26	426	42	27	373	152	37	120	0	146	34	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	494	0	0	400	152	0	157	0	0	206	0
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right									
Median Width(ft)		0			0			0				0
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1		6
Permitted Phases	4			8		8	2			6		

Lanes, Volumes, Timings
6: Beacon Lite Rd & SH 105

2022 Background + Site (Signalized)
AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0	20.0	20.0	20.0		20.0	20.0	
Total Split (s)	61.0	61.0		61.0	61.0	61.0	18.0	10.0		19.0	11.0	
Total Split (%)	67.8%	67.8%		67.8%	67.8%	67.8%	20.0%	11.1%		21.1%	12.2%	
Maximum Green (s)	57.0	57.0		57.0	57.0	57.0	14.0	6.0		15.0	7.0	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0			0.0	0.0		0.0			0.0	
Total Lost Time (s)		4.0			4.0	4.0		4.0			4.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	C-Max		Max	Max	
Walk Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		33.6			33.6	33.6		43.4			45.4	
Actuated g/C Ratio		0.37			0.37	0.37		0.48			0.50	
v/c Ratio		0.74			0.60	0.22		0.18			0.24	
Control Delay		29.7			25.6	3.1		13.7			13.6	
Queue Delay		0.0			0.1	0.0		0.0			0.0	
Total Delay		29.7			25.7	3.1		13.7			13.6	
LOS		C			C	A		B			B	
Approach Delay		29.7			19.5			13.7			13.6	
Approach LOS		C			B			B			B	
Queue Length 50th (ft)		233			180	0		43			55	
Queue Length 95th (ft)		270			164	16		25			108	
Internal Link Dist (ft)		287			361			150			2657	
Turn Bay Length (ft)												
Base Capacity (vph)		1132			1126	1058		888			873	
Starvation Cap Reductn		0			132	0		0			0	
Spillback Cap Reductn		0			0	0		0			0	
Storage Cap Reductn		0			0	0		0			0	
Reduced v/c Ratio		0.44			0.40	0.14		0.18			0.24	

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 2:NBTL, Start of Green
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.74
Intersection Signal Delay:	21.6
Intersection LOS:	C
Intersection Capacity Utilization:	63.7%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 6: Beacon Lite Rd & SH 105

 Ø1	 Ø2 (R)	 Ø4
19 s	10 s	61 s
 Ø5	 Ø6	 Ø8
18 s	11 s	61 s

Intersection

Int Delay, s/veh 0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	2	75	52	3	115
Future Vol, veh/h	15	2	75	52	3	115
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	2	88	61	4	135

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	262	119	0	0	149	0
Stage 1	119	-	-	-	-	-
Stage 2	143	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	727	933	-	-	1432	-
Stage 1	906	-	-	-	-	-
Stage 2	884	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	725	933	-	-	1432	-
Mov Cap-2 Maneuver	725	-	-	-	-	-
Stage 1	903	-	-	-	-	-
Stage 2	884	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	10		0		0.2
HCM LOS	B				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 745	1432	-
HCM Lane V/C Ratio	-	- 0.025	0.002	-
HCM Control Delay (s)	-	- 10	7.5	0
HCM Lane LOS	-	- B	A	A
HCM 95th %tile Q(veh)	-	- 0.1	0	-

Intersection

Int Delay, s/veh 37.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔		↔			↔	
Traffic Vol, veh/h	26	465	45	15	450	146	50	43	0	141	36	23
Future Vol, veh/h	26	465	45	15	450	146	50	43	0	141	36	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	505	49	16	474	154	53	45	0	148	38	24

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	628	0	0	554	0	0	1200	1246	-	1114	1116	474
Stage 1	-	-	-	-	-	-	586	586	-	506	506	-
Stage 2	-	-	-	-	-	-	614	660	-	608	610	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	-	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	954	-	-	1016	-	-	162	174	0	185	208	590
Stage 1	-	-	-	-	-	-	496	497	0	549	540	-
Stage 2	-	-	-	-	-	-	479	460	0	483	485	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	954	-	-	1016	-	-	126	162	-	~ 138	194	590
Mov Cap-2 Maneuver	-	-	-	-	-	-	126	162	-	~ 138	194	-
Stage 1	-	-	-	-	-	-	475	476	-	525	527	-
Stage 2	-	-	-	-	-	-	416	449	-	418	464	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.2	75.6	234.1
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	140	954	-	-	1016	-	-	160
HCM Lane V/C Ratio	0.699	0.03	-	-	0.016	-	-	1.316
HCM Control Delay (s)	75.6	8.9	0	-	8.6	0	-	234.1
HCM Lane LOS	F	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	4	0.1	-	-	0	-	-	12.6

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	50	5	125	25	1	135
Future Vol, veh/h	50	5	125	25	1	135
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	5	136	27	1	147

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	299	150	0	0	163	0
Stage 1	150	-	-	-	-	-
Stage 2	149	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	692	896	-	-	1416	-
Stage 1	878	-	-	-	-	-
Stage 2	879	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	691	896	-	-	1416	-
Mov Cap-2 Maneuver	691	-	-	-	-	-
Stage 1	877	-	-	-	-	-
Stage 2	879	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	10.6		0		0.1
HCM LOS	B				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 706	1416	-
HCM Lane V/C Ratio	-	- 0.085	0.001	-
HCM Control Delay (s)	-	- 10.6	7.5	0
HCM Lane LOS	-	- B	A	A
HCM 95th %tile Q(veh)	-	- 0.3	0	-

Lanes, Volumes, Timings
6: Beacon Lite Rd & SH 105

2022 Background + Site (Signalized)

PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕		↕			↕	
Traffic Volume (vph)	26	465	45	15	450	146	50	43	0	141	36	23
Future Volume (vph)	26	465	45	15	450	146	50	43	0	141	36	23
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		100	0		0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.989				0.850						0.985
Flt Protected		0.998			0.998			0.974				0.966
Satd. Flow (prot)	0	1839	0	0	1859	1583	0	1814	0	0	1772	0
Flt Permitted		0.965			0.977							0.791
Satd. Flow (perm)	0	1778	0	0	1820	1583	0	1863	0	0	1451	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				154						7
Link Speed (mph)		30			30			30				30
Link Distance (ft)		367			441			230				2737
Travel Time (s)		8.3			10.0			5.2				62.2
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	28	505	49	16	474	154	53	45	0	148	38	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	582	0	0	490	154	0	98	0	0	210	0
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right									
Median Width(ft)		0			0			0				0
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1		6
Permitted Phases	4			8		8	2			6		

Lanes, Volumes, Timings
6: Beacon Lite Rd & SH 105

2022 Background + Site (Signalized)

PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0	20.0	20.0	20.0		20.0	20.0	
Total Split (s)	61.0	61.0		61.0	61.0	61.0	18.0	10.0		19.0	11.0	
Total Split (%)	67.8%	67.8%		67.8%	67.8%	67.8%	20.0%	11.1%		21.1%	12.2%	
Maximum Green (s)	57.0	57.0		57.0	57.0	57.0	14.0	6.0		15.0	7.0	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0			0.0	0.0		0.0			0.0	
Total Lost Time (s)		4.0			4.0	4.0		4.0			4.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	C-Max		Max	Max	
Walk Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		39.4			39.4	39.4		37.6			39.6	
Actuated g/C Ratio		0.44			0.44	0.44		0.42			0.44	
v/c Ratio		0.74			0.62	0.20		0.13			0.28	
Control Delay		25.9			21.9	2.3		17.3			17.6	
Queue Delay		0.0			0.3	0.0		0.0			0.0	
Total Delay		25.9			22.2	2.3		17.3			17.6	
LOS		C			C	A		B			B	
Approach Delay		25.9			17.4			17.3			17.6	
Approach LOS		C			B			B			B	
Queue Length 50th (ft)		263			208	0		30			66	
Queue Length 95th (ft)		284			224	24		75			146	
Internal Link Dist (ft)		287			361			150			2657	
Turn Bay Length (ft)												
Base Capacity (vph)		1129			1152	1059		761			758	
Starvation Cap Reductn		0			219	0		0			0	
Spillback Cap Reductn		0			0	0		0			0	
Storage Cap Reductn		0			0	0		0			0	
Reduced v/c Ratio		0.52			0.53	0.15		0.13			0.28	

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 2:NBTL, Start of Green
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.74
Intersection Signal Delay:	20.7
Intersection LOS:	C
Intersection Capacity Utilization:	70.6%
ICU Level of Service:	C
Analysis Period (min):	15

Splits and Phases: 6: Beacon Lite Rd & SH 105

 Ø1	 Ø2 (R)	 Ø4
19 s	10 s	61 s
 Ø5	 Ø6	 Ø8
18 s	11 s	61 s

Intersection

Int Delay, s/veh 1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	50	5	125	25	1	135
Future Vol, veh/h	50	5	125	25	1	135
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	5	136	27	1	147

Major/Minor	Minor1	Minor2	Major1	Major2	Major3	Major4
Conflicting Flow All	299	150	0	0	163	0
Stage 1	150	-	-	-	-	-
Stage 2	149	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	692	896	-	-	1416	-
Stage 1	878	-	-	-	-	-
Stage 2	879	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	691	896	-	-	1416	-
Mov Cap-2 Maneuver	691	-	-	-	-	-
Stage 1	877	-	-	-	-	-
Stage 2	879	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.6	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	706	1416	-
HCM Lane V/C Ratio	-	-	0.085	0.001	-
HCM Control Delay (s)	-	-	10.6	7.5	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection

Int Delay, s/veh 81.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗		↖	↗		↖			↕	
Traffic Vol, veh/h	35	475	65	30	325	130	50	55	0	170	50	35
Future Vol, veh/h	35	475	65	30	325	130	50	55	0	170	50	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	200	-	200	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	92	92	92	95	95	95	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	37	500	68	33	353	141	53	58	0	200	59	41

Major/Minor	Major1	Major2	Minor1	Minor2								
Conflicting Flow All	494	0	0	568	0	0	1114	1134	-	1056	1061	353
Stage 1	-	-	-	-	-	-	574	574	-	419	419	-
Stage 2	-	-	-	-	-	-	540	560	-	637	642	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	-	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1070	-	-	1004	-	-	185	203	0	203	224	691
Stage 1	-	-	-	-	-	-	504	503	0	612	590	-
Stage 2	-	-	-	-	-	-	526	511	0	465	469	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1070	-	-	1004	-	-	128	187	-	~ 146	206	691
Mov Cap-2 Maneuver	-	-	-	-	-	-	128	187	-	~ 146	206	-
Stage 1	-	-	-	-	-	-	486	485	-	591	563	-
Stage 2	-	-	-	-	-	-	423	487	-	395	453	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.5	73.5	\$ 390.5
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	153	1070	-	-	1004	-	-	175
HCM Lane V/C Ratio	0.722	0.034	-	-	0.032	-	-	1.714
HCM Control Delay (s)	73.5	8.5	-	-	8.7	0	-	\$ 390.5
HCM Lane LOS	F	A	-	-	A	A	-	F
HCM 95th %tile Q(veh)	4.3	0.1	-	-	0.1	-	-	21

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 473

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗		↖	↗		↖			↕	
Traffic Vol, veh/h	45	550	65	20	525	190	100	85	0	210	75	40
Future Vol, veh/h	45	550	65	20	525	190	100	85	0	210	75	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	200	-	200	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	47	579	68	21	553	200	105	89	0	221	79	42

Major/Minor	Major1	Major2	Minor1	Minor2								
Conflicting Flow All	753	0	0	647	0	0	1429	1468	-	1347	1336	553
Stage 1	-	-	-	-	-	-	673	673	-	595	595	-
Stage 2	-	-	-	-	-	-	756	795	-	752	741	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	-	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	857	-	-	939	-	-	112	128	0	~ 128	153	533
Stage 1	-	-	-	-	-	-	445	454	0	491	492	-
Stage 2	-	-	-	-	-	-	400	399	0	402	423	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	857	-	-	939	-	-	~ 53	116	-	~ 44	139	533
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 53	116	-	~ 44	139	-
Stage 1	-	-	-	-	-	-	421	429	-	464	472	-
Stage 2	-	-	-	-	-	-	295	383	-	301	400	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.2	\$ 913	\$ 2251.2
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	71	857	-	-	939	-	-	60
HCM Lane V/C Ratio	2.743	0.055	-	-	0.022	-	-	5.702
HCM Control Delay (s)	\$ 913	9.4	-	-	8.9	0	-	\$ 2251.2
HCM Lane LOS	F	A	-	-	A	A	-	F
HCM 95th %tile Q(veh)	19.3	0.2	-	-	0.1	-	-	38.6

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 126.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗		↖	↗		↖			↕	
Traffic Vol, veh/h	38	475	65	30	325	174	50	60	0	182	52	36
Future Vol, veh/h	38	475	65	30	325	174	50	60	0	182	52	36
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	200	-	200	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	82	82	82	95	95	95	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	40	500	68	37	396	212	53	63	0	214	61	42

Major/Minor	Major1	Major2	Minor1	Minor2								
Conflicting Flow All	608	0	0	568	0	0	1208	1262	-	1116	1118	396
Stage 1	-	-	-	-	-	-	580	580	-	470	470	-
Stage 2	-	-	-	-	-	-	628	682	-	646	648	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	-	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	970	-	-	1004	-	-	160	170	0	~ 185	207	653
Stage 1	-	-	-	-	-	-	500	500	0	574	560	-
Stage 2	-	-	-	-	-	-	471	450	0	460	466	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	970	-	-	1004	-	-	104	154	-	~ 117	187	653
Mov Cap-2 Maneuver	-	-	-	-	-	-	104	154	-	~ 117	187	-
Stage 1	-	-	-	-	-	-	480	480	-	550	528	-
Stage 2	-	-	-	-	-	-	367	424	-	383	447	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.5	125.6	\$ 622.3
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	126	970	-	-	1004	-	-	143
HCM Lane V/C Ratio	0.919	0.041	-	-	0.036	-	-	2.221
HCM Control Delay (s)	125.6	8.9	-	-	8.7	0	-	\$ 622.3
HCM Lane LOS	F	A	-	-	A	A	-	F
HCM 95th %tile Q(veh)	6	0.1	-	-	0.1	-	-	26.4

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	15	2	125	52	3	200
Future Vol, veh/h	15	2	125	52	3	200
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	2	147	61	4	235

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	421	178	0	0	208	0
Stage 1	178	-	-	-	-	-
Stage 2	243	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	589	865	-	-	1363	-
Stage 1	853	-	-	-	-	-
Stage 2	797	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	587	865	-	-	1363	-
Mov Cap-2 Maneuver	587	-	-	-	-	-
Stage 1	850	-	-	-	-	-
Stage 2	797	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	11.1		0		0.1
HCM LOS	B				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	610	1363
HCM Lane V/C Ratio	-	-	0.03	0.003
HCM Control Delay (s)	-	-	11.1	7.6
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Lanes, Volumes, Timings
6: Beacon Lite Rd & SH 105

2036 Background + Site (Signalized)
AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	475	65	30	325	174	50	60	25	182	52	36
Future Volume (vph)	38	475	65	30	325	174	50	60	25	182	52	36
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	0		0	0		100	0		0
Storage Lanes	1		1	0		1	0		0	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.975			0.982	
Flt Protected	0.950				0.996			0.982			0.967	
Satd. Flow (prot)	1770	1863	1583	0	1855	1583	0	1783	0	0	1769	0
Flt Permitted	0.470				0.940			0.820			0.737	
Satd. Flow (perm)	875	1863	1583	0	1751	1583	0	1489	0	0	1348	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			68			189		24			16	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		367			441			230			2737	
Travel Time (s)		8.3			10.0			5.2			62.2	
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.95	0.95	0.95	0.85	0.85	0.85
Adj. Flow (vph)	40	500	68	33	353	189	53	63	26	214	61	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	40	500	68	0	386	189	0	142	0	0	317	0
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right									
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex								
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		6			

Lanes, Volumes, Timings
6: Beacon Lite Rd & SH 105

2036 Background + Site (Signalized)

AM

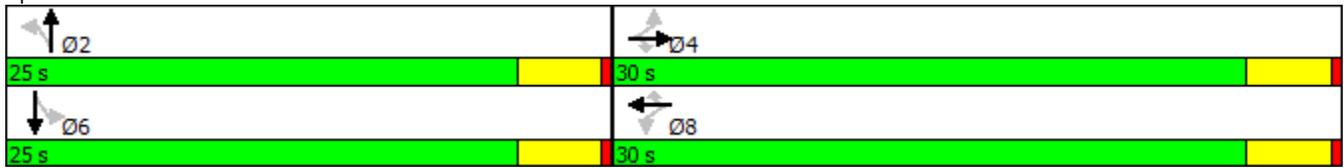


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0		20.0	20.0	
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	25.0	25.0		25.0	25.0	
Total Split (%)	54.5%	54.5%	54.5%	54.5%	54.5%	54.5%	45.5%	45.5%		45.5%	45.5%	
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0	26.0	21.0	21.0		21.0	21.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0		0.0			0.0	
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0		4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Min	Min		Min	Min	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effect Green (s)	16.4	16.4	16.4		16.4	16.4		13.8			13.8	
Actuated g/C Ratio	0.42	0.42	0.42		0.42	0.42		0.35			0.35	
v/c Ratio	0.11	0.64	0.10		0.52	0.24		0.26			0.65	
Control Delay	8.5	13.7	3.0		11.8	2.6		10.2			18.3	
Queue Delay	0.0	0.0	0.0		0.0	0.0		0.0			0.0	
Total Delay	8.5	13.7	3.0		11.8	2.6		10.2			18.3	
LOS	A	B	A		B	A		B			B	
Approach Delay		12.1			8.8			10.2			18.3	
Approach LOS		B			A			B			B	
Queue Length 50th (ft)	5	75	0		54	0		16			49	
Queue Length 95th (ft)	21	187	16		139	26		58			135	
Internal Link Dist (ft)		287			361			150			2657	
Turn Bay Length (ft)	200		200									
Base Capacity (vph)	623	1326	1147		1247	1181		885			799	
Starvation Cap Reductn	0	0	0		0	0		0			0	
Spillback Cap Reductn	0	0	0		0	0		0			0	
Storage Cap Reductn	0	0	0		0	0		0			0	
Reduced v/c Ratio	0.06	0.38	0.06		0.31	0.16		0.16			0.40	

Intersection Summary

Area Type:	Other
Cycle Length:	55
Actuated Cycle Length:	39
Natural Cycle:	40
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.65
Intersection Signal Delay:	12.0
Intersection LOS:	B
Intersection Capacity Utilization:	70.3%
ICU Level of Service:	C
Analysis Period (min):	15

Splits and Phases: 6: Beacon Lite Rd & SH 105



Intersection

Int Delay, s/veh 0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	15	2	125	52	3	200
Future Vol, veh/h	15	2	125	52	3	200
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	2	147	61	4	235

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	421	178	0	0	208	0
Stage 1	178	-	-	-	-	-
Stage 2	243	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	589	865	-	-	1363	-
Stage 1	853	-	-	-	-	-
Stage 2	797	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	587	865	-	-	1363	-
Mov Cap-2 Maneuver	587	-	-	-	-	-
Stage 1	850	-	-	-	-	-
Stage 2	797	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	11.1		0		0.1
HCM LOS	B				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	610	1363
HCM Lane V/C Ratio	-	-	0.03	0.003
HCM Control Delay (s)	-	-	11.1	7.6
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Intersection

Int Delay, s/veh 734.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗		↖	↗		↖			↕	
Traffic Vol, veh/h	46	550	65	20	525	211	100	88	0	251	81	43
Future Vol, veh/h	46	550	65	20	525	211	100	88	0	251	81	43
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	200	-	200	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	579	68	21	553	222	105	93	0	264	85	45

Major/Minor	Major1	Major2	Minor1	Minor2								
Conflicting Flow All	775	0	0	647	0	0	1446	1492	-	1351	1338	553
Stage 1	-	-	-	-	-	-	675	675	-	595	595	-
Stage 2	-	-	-	-	-	-	771	817	-	756	743	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	-	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	841	-	-	939	-	-	109	123	0	~ 127	153	533
Stage 1	-	-	-	-	-	-	444	453	0	491	492	-
Stage 2	-	-	-	-	-	-	393	390	0	400	422	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	841	-	-	939	-	-	~ 47	111	-	~ 36	138	533
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 47	111	-	~ 36	138	-
Stage 1	-	-	-	-	-	-	419	427	-	463	472	-
Stage 2	-	-	-	-	-	-	283	374	-	295	398	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.2	\$ 1079.6	\$ 3335.4
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	64	841	-	-	939	-	-	49
HCM Lane V/C Ratio	3.092	0.058	-	-	0.022	-	-	8.056
HCM Control Delay (s)	\$ 1079.6	9.5	-	-	8.9	0	-	\$ 3335.4
HCM Lane LOS	F	A	-	-	A	A	-	F
HCM 95th %tile Q(veh)	20.4	0.2	-	-	0.1	-	-	46.4

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	50	2	175	25	1	300
Future Vol, veh/h	50	2	175	25	1	300
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	2	184	26	1	316

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	515	197	0	0	210	0
Stage 1	197	-	-	-	-	-
Stage 2	318	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	520	844	-	-	1361	-
Stage 1	836	-	-	-	-	-
Stage 2	738	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	519	844	-	-	1361	-
Mov Cap-2 Maneuver	519	-	-	-	-	-
Stage 1	835	-	-	-	-	-
Stage 2	738	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	12.7		0		0
HCM LOS	B				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 527	1361	-
HCM Lane V/C Ratio	-	- 0.107	0.001	-
HCM Control Delay (s)	-	- 12.7	7.6	0
HCM Lane LOS	-	- B	A	A
HCM 95th %tile Q(veh)	-	- 0.4	0	-

Lanes, Volumes, Timings
6: Beacon Lite Rd & SH 105

2036 Background + Site (Signalized)
PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	550	65	20	525	211	100	88	0	251	81	43
Future Volume (vph)	46	550	65	20	525	211	100	88	0	251	81	43
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	0		0	0		100	0		0
Storage Lanes	1		1	0		1	0		0	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850						0.985
Flt Protected	0.950				0.998			0.974				0.968
Satd. Flow (prot)	1770	1863	1583	0	1859	1583	0	1814	0	0	1776	0
Flt Permitted	0.225				0.932			0.864				0.682
Satd. Flow (perm)	419	1863	1583	0	1736	1583	0	1609	0	0	1251	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			68			222						7
Link Speed (mph)		30			30			30				30
Link Distance (ft)		1006			441			917				2737
Travel Time (s)		22.9			10.0			20.8				62.2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	48	579	68	21	553	222	105	93	0	264	85	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	579	68	0	574	222	0	198	0	0	394	0
Enter Blocked Intersection	No	No	No	No	No	No						
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0				0
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex							
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		

Lanes, Volumes, Timings
6: Beacon Lite Rd & SH 105

2036 Background + Site (Signalized)
PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0		20.0	20.0	
Total Split (s)	61.0	61.0	61.0	61.0	61.0	61.0	18.0	10.0		19.0	11.0	
Total Split (%)	67.8%	67.8%	67.8%	67.8%	67.8%	67.8%	20.0%	11.1%		21.1%	12.2%	
Maximum Green (s)	57.0	57.0	57.0	57.0	57.0	57.0	14.0	6.0		15.0	7.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0		0.0			0.0	
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0		4.0			4.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Max	C-Max		Max	Max	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effect Green (s)	39.5	39.5	39.5		39.5	39.5		37.5			39.5	
Actuated g/C Ratio	0.44	0.44	0.44		0.44	0.44		0.42			0.44	
v/c Ratio	0.26	0.71	0.09		0.75	0.27		0.27			0.53	
Control Delay	16.8	24.7	2.8		26.9	2.3		18.1			22.3	
Queue Delay	0.0	0.0	0.0		0.4	0.0		0.0			0.0	
Total Delay	16.8	24.7	2.8		27.3	2.3		18.1			22.3	
LOS	B	C	A		C	A		B			C	
Approach Delay		22.0			20.4			18.1			22.3	
Approach LOS		C			C			B			C	
Queue Length 50th (ft)	17	258	0		264	0		64			144	
Queue Length 95th (ft)	33	278	17		290	28		140			#285	
Internal Link Dist (ft)		926			361			837			2657	
Turn Bay Length (ft)	200		200									
Base Capacity (vph)	265	1179	1027		1099	1083		742			742	
Starvation Cap Reductn	0	0	0		173	0		0			0	
Spillback Cap Reductn	0	0	0		0	0		0			0	
Storage Cap Reductn	0	0	0		0	0		0			0	
Reduced v/c Ratio	0.18	0.49	0.07		0.62	0.20		0.27			0.53	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 21.1
 Intersection LOS: C
 Intersection Capacity Utilization 77.9%
 ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Beacon Lite Rd & SH 105



Intersection

Int Delay, s/veh 1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	50	5	175	25	1	300
Future Vol, veh/h	50	5	175	25	1	300
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	5	184	26	1	316

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	515	197	0	0	210	0
Stage 1	197	-	-	-	-	-
Stage 2	318	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	520	844	-	-	1361	-
Stage 1	836	-	-	-	-	-
Stage 2	738	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	519	844	-	-	1361	-
Mov Cap-2 Maneuver	519	-	-	-	-	-
Stage 1	835	-	-	-	-	-
Stage 2	738	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	12.5		0		0
HCM LOS	B				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 538	1361	-
HCM Lane V/C Ratio	-	- 0.111	0.001	-
HCM Control Delay (s)	-	- 12.5	7.6	0
HCM Lane LOS	-	- B	A	A
HCM 95th %tile Q(veh)	-	- 0.4	0	-